WATER RESOURCES BOARD

Tuesday, April 30, 2019
Operations & Maintenance Facility
1725 South Church Street
3:30 PM

A G E N D A

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MEMORANDUM

DATE: April 2, 2019

TO: Water Resources Board

FROM: Alan Cranford

SUBJECT: Mill Street, Tiger Hill and Halls Hill Storage Tank Repair and Recoating Project
Stones River Water Treatment Plant

Background

Staff monitors the status of all five (5) of the drinking water storage tanks for service condition including cleanliness and coating status. There are three (3) tanks that need recoating (repainting). The Mill Street tank is a two (2) million-gallon steel elevated storage tank and was constructed in 1973, the Tiger Hill tank is a three (3) million-gallon steel ground storage tank and was constructed in 1983 and the Halls Hill tank is a three (3) million-gallon concrete ground storage tank and was constructed in 1972. The Mill Street and Tiger Hill tanks were last painted (recoated) in 2007. The last coating application on the Mill Street tank is experiencing a coating failure and there are several repairs and improvements that are needed at that location. The Tiger Hill tank needs recoating, however, its existing coating is in a condition that allows recoating over the existing paint. The Halls Hill tank was last recoated with concrete repairs in 2012, however it is experiencing spalling on the exterior and needs more extensive repair along with recoating. Staff has requested SSR to provide engineering services in conjunction with recoating these three (3) tanks due to the complexity of this project.

At the Mill Street tank there are several modifications and repairs that need are needed in addition to the recoating of the tank. The estimated cost of all work to the tank is $1,600,000. The work includes:

- Extending the interior tube ladder to manway (safety issue)
- Removing manway and replacing with a door to the dry tube (safety issue)
- Adding anchor points to the roof of tank (safety issue)
- Conducting lead paint removal and abatement (safety issue)
- Moving drain to sewer line (current overflow goes to creek)

At the Tiger Hill tank there are a few repairs that need are needed in addition to the recoating of the tank. The estimated cost of all work to the tank is $615,000. The work includes:

- Adding anchor points to the roof of tank (safety issue)
- Caulk foundation area (required due to wear and tear)

At the Halls Hill tank there are several repairs that need are needed. The estimated cost of all work to the tank is $155,000. The work includes:

- Concrete repair (due to age and leakage)
- Caulk foundation area (required due to wear and tear)

The scope of SSR's engineering services will include preparation of specifications suitable for both bidding and construction of the recoating project as well as permitting with local and state agencies. Fees, as required for reviews and permits, will be billed as a direct pass through reimbursable at SSR's costs. SSR proposes to provide the design and bidding services described above for an hourly not-to-exceed fee of $28,135.00. This fee ceiling will not be exceeded without prior written approval.

SSR proposes to provide Construction Administration and Resident Project Representative Services on the project. These services would include observation of the project, payment request review, response to contractor RFIs, review of shop drawings, and other construction phase related tasks as necessary. In addition, SSR will commission a NACE Certified Coatings Inspector to observe all Critical Phase work. SSR estimates the NACE Inspector will require 18 trips to the site for each tank at a rate of $985.00 per trip. Inspection services will also be included in this fee and will be billed as a direct pass through reimbursable at our costs with a maximum not-to-exceed fee of $53,190.00, or 54 trips. SSR estimates that construction will be fully complete in approximately 255 days from issued Notice to Proceed date with consideration to weekend and weather days. SSR proposes an hourly not-to-exceed fee of $141,460.00 for Construction Administration and Resident Project Representative Services.

SSR proposes an hourly not-to-exceed fee of $169,595.00 for the design, bidding, and construction phase services for the recoating of the Mill Street elevated and Tiger Hill ground storage tanks.

The cost for the painting (recoating) and repairs is separate from the above engineering services. This cost is in the FY20 CapEx.

Fiscal Impact

The estimate for providing the design, bidding and construction phase services for repair and recoating the Mill Street, Tiger Hill and Halls Hill tanks is $169,595.00. The estimate for the cost of all tank work is $2,370,000.00. The total estimate for the entire project is $2,539,595.00. Funding to come from the FY20 CapEx.

Recommendations

Staff recommends the Water Resources Board recommend to the City Council approving the proposed engineering services from SSR and the tank repair and recoating project with funding coming from the FY20 CapEx.

Attachments

SRWTP Mill Street, Tiger Hill and Halls Hill Storage Tank Recoating Memo – February 15, 2019
SRWTP Engineer's Estimate of Probable Construction Costs
SSR Task Order 18-41-021.0 for Engineering Consulting Services

Smith Seckman Reid, Inc.

MEMORANDUM

DATE:	February 15, 2019
TO:	Alan Cranford
FROM:	Luke Williams
RE:	Tiger Hill, Mill Street, and Hall's Hill Tank Recoating Project

As requested by Murfreesboro Water Resources Department (MWRD), Smith Seckman Reid, Inc. (SSR) is pleased to provide this proposal for engineering services in conjunction with recoating of the Tiger Hill, Mill Street, and Hall's Hill Water Storage Tanks. The steel Tiger Hill Tank was constructed in 1983 and was last recoated in 2007. MWRD indicated coating failure and has requested engineering services to address the failing system. The steel Mill Street Tank was last recoated in 2007. MWRD indicated the existing coating system is failing on both the exterior and interior and has requested engineering services to address the issue at hand. The concrete Hall's Hill Tank was constructed in 1972 and was last recoated in 2012. MWRD indicated the tank exterior is spalling in various locations and the exterior coating is experiencing failure. MWRD has requested engineering services to repair the spalling and recoat the tank exterior.

The scope of our engineering services will include preparation of specifications suitable for both bidding and construction of the recoating project. Permitting with local and state agencies are included within our scope. Fees, as required for reviews and permits, will be billed as a direct pass through reimbursable at our costs. We propose to provide the design and bidding services described above for an hourly not-to-exceed fee of $28,135.00. This fee ceiling will not be exceeded without prior written approval.

SSR also proposes to provide Construction Administration and Resident Project Representative Services on the project. These services would include part time observation of the project, payment request review, response to contractor RFI's, review of shop drawings, and other construction phase related tasks as necessary. In addition, SSR will commission a NACE Certified Coatings Inspector to observe all Critical Phase work. SSR estimates the NACE Inspector will require 18 trips to the site for each tank at a rate of $985.00 per trip. NACE Inspection services will be included in this fee and will be billed at cost with a maximum not-to-exceed fee of $53,190.00, or 54 trips. We estimate that construction will be fully complete in approximately 255 days from issued Notice to Proceed date with consideration to weekend and weather days. We propose an hourly not-to-exceed fee of $141,460.00 for Construction Administration, Resident Project Representative Services, and NACE Certified Inspection Services.

SSR proposes a total hourly not-to-exceed fee of **$169,595.00** for the design, bidding, and construction phase services for the recoating of the Tiger Hill, Mill Street and Hall's Hill tanks. We appreciate the opportunity to provide our services to the Murfreesboro Water Resources Department.

ENGINEERING TASK ORDER 18-41-021.0
AGREEMENT FOR ENGINEERING CONSULTING SERVICES
FOR THE
TIGER HILL, MILL STREET, AND HALL'S HILL TANK RECOATING PROJECT

This Task Order, made and entered into by and between the Murfreesboro Water Resources Department (MWRD), hereinafter called the "OWNER" and Smith Seckman Reid, Inc., hereinafter called the "ENGINEER", shall be in accordance with our Master Services Agreement and as described herein.

Purpose

This Task Order authorizes and directs the ENGINEER to proceed in providing to the OWNER Design, Bidding, and Construction Phase services for the recoating of the Tiger Hill, Mill Street, and Hall's Hill Water Tanks.

Project Understanding

This project includes improvements to two (2) steel tanks, Tiger Hill and Mill Street, and to one (1) concrete tank, Hall's Hill. These improvements include:

- Identify and repair any areas lacking structural integrity
- Tank recoating

Engineer's Scope of Services

ENGINEER'S services on this project will include Preliminary Design Phase, Final Design Phase, Bidding Phase, and Construction Phase services as detailed in the Master Services Agreement. The Preliminary Design Phase will entail a Kickoff Meeting and discussion of potential repair options as well as a site visit to all three sites. The Final Design Phase will involve the preparation of Contract Documents as well as assisting the OWNER in receiving bids for construction. One meeting will be held between the OWNER and ENGINEER to review the proposed design documents. Upon receipt of OWNER's comments, ENGINEER will finalize the Contract Documents and submit to the Tennessee Department of Environment and Conservation for review.

ENGINEER will attend the bid opening, review and tabulate the bids, and make a recommendation to the OWNER for the award of a construction contract.

The Construction Administration functions will include conducting pre-construction conferences, issuing notices-to-proceed, reviewing all shop drawings, reviewing all monthly payment requests, reviewing all change order requests from the contractor, answering questions regarding the Contract Documents, conducting on-site inspection, and making a final inspection for the project close-out of each project.

The close-out phase will include a final inspection of each tank.

Resident Project Representative

The ENGINEER shall furnish a Resident Project Representative ("RPR") as described in the Master Services Agreement to assist in observing progress and quality of the Work

performed. The RPR shall provide part time representation during the bulk of the project but may provide representation to a lesser degree during certain portions of the work.

As part of this project the ENGINEER will commission a NACE Certified Coating Inspector furnished by Mid-South Tank Consultants to be on site during Critical Phases of the project including surface preparation, coating application, and repair activities. SSR estimates the Inspector will require eighteen (18) trips per tank. All costs associated with the NACE Inspector will be billed to the OWNER at direct cost accrued to the ENGINEER. Upon conclusion of the project, a bound report will be provided to MWRD documenting the history of the job progress.

Time of Completion

The engineering design and construction documents will be completed and ready for OWNER review 90 calendar days from receiving Notice to Proceed. We estimate the construction period for the steel tanks to be approximately 90 calendar days from the Notice to Proceed and the concrete tank to be approximately 45 calendar days from the Notice to Proceed. Total construction period for all three (3) tanks is estimated at 225 calendar days.

Deliverables

ENGINEER will deliver to the OWNER the following:

- One (1) copy of all required permits
- Final opinion of probable construction cost.
- One executed set of the contract documents

Compensation

The Compensation is estimated to be **$169,595.00**, will be in accordance with the attached estimated Engineering Cost Breakdown, and has been broken down as follows for the various services:

SSR Design and Bidding Phase Services:	**Hourly with Not to Exceed price of $28,135.00**
SSR Construction Phase Services:	**Hourly with Not to Exceed price of $25,270.00**
SSR RPR Services	**Hourly with Not to Exceed price of $63,000.00**
NACE Coating Inspection:	**$985.00 per trip with Not to Exceed price of $53,190.00**

Geotechnical and Other Field Investigations:	**Reimbursable at cost**
Outside Plotting and Printing:	**Reimbursable at cost**
Out of Town Travel:	**Reimbursable at cost**
Permit Fees:	**Reimbursable at cost**
Bid Advertisement Fees:	**Reimbursable at cost**

The fees listed above represent the overall budget and SSR will have the flexibility to move budget between phases as needed. NACE Coating Inspection was budgeted for the concrete tank but may be supplemented with SSR personnel as needed.

The ENGINEER will be compensated based upon the Standard Hourly Rates method as described in the Master Services Agreement executed in 2002 and updated in April 2017. The fee ceiling of $169,595.00 for these services will not be exceeded without written authorization of OWNER. If the OWNER requires additional services related to this project, the work will be compensated based upon the Standard Hourly Rates as described in the Master Services Agreement. These additional services will only be performed upon written authorization from OWNER. Reimbursable costs, as listed above and as described in the Master Services Agreement, shall be billed at cost.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on this, the

_____day of _____ 2019.

SMITH SECKMAN REID, INC.

By:_____

Title: Principal

WITNESS

By: Luke Williams

Title: Civil Engineer

CITY OF MURFREESBORO

By:_____

Title:_____

WITNESS

By:_____

Title:_____

APPROVED AS TO FORM:

_____
City of Murfreesboro Legal Department

Murfreesboro Water & Sewer Department
Tiger Hill and Mill Street Elevated Storage Tank Receoating
Preliminary Estimate of Manpower

			TOTAL	Summary									
				Project Principal	Project Manager	Senior Engineer	Registered Engineer	Engineer Intern	Sr. Designer	Designer	RPR II	Technician	Admin/ Clerical
Task 1- Preliminary Design Phase													
	SubTask 1.1	Kickoff Meeting	12		4		4	4					
	SubTask 1.2	Data Collection and Assimilation	16		2		4	8					2
	SubTask 1.3	Alternatives Development	18		2		6	10					
	SubTask 1.4	Site Visits	24		8		8	8					
	SubTask 1.5	Alternative Review Meeting	16		4		4	8					
Task 1 Subtotal Hours			**86**		**20**		**26**	**38**					**2**
Task 1 Subtotal Cost			**$10,370**		**$3,000**		**$3,250**	**$3,990**					**$130**
Task 2- Final Design Phase													
	SubTask 2.1	60% Design Submittal	31				5	20	4				2
	SubTask 2.2	Construction Cost Estimate	4					4					
	SubTask 2.3	90% Design Submittal	24		5		5	10	2				2
	SubTask 2.4	Project Permitting	13		5			8					
	SubTask 2.5	100% Specification Submittal	22		5		5	10					2
Task 2 Subtotal Hours			**94**		**15**		**15**	**52**	**6**				**6**
Task 2 Subtotal Cost			**$10,725**		**$2,250**		**$1,875**	**$5,460**	**$750**				**$390**
Task 3- Bidding and Negotiating Phase													
	SubTask 3.1	Preparation of Advertisement for Bids	6				2	2					2
	SubTask 3.2	Pre- Bid Meeting	18		6		6	6					
	SubTask 3.3	Requests for Information	6				2	4					
	SubTask 3.4	Addenda Preparation	12				2	8					2
	SubTask 3.5	Bid Evaluation and Recommendation	6		2		2	2					
	SubTask 3.6	Contract Preparation and Recommendation	14		2		2	8					2
Task 3 Subtotal Hours			**62**		**10**		**16**	**30**					**6**
Task 3 Subtotal Cost			**$7,040**		**$1,500**		**$2,000**	**$3,150**					**$390**
Task 4- Construction Phase													
	SubTask 4.1	Pre-Construction Conference	12		4		4	4					
	SubTask 4.2	Submittal Review	10		2		2	4					2
	SubTask 4.3	Address Requests for Information	8				4	4					
	SubTask 4.4	Periodic Site Visits	11		3			8					
	SubTask 4.5	Monthly Meeting Attendance	60		12		24	24					
	SubTask 4.6	Construction Project Management Duties	88		8		8	72					
	SubTask 4.7	Final Inspections and Contract Closeout	12		4		4	4					
Task 4 Subtotal Hours			**201**		**33**		**46**	**120**					**2**
Task 4 Subtotal Cost			**$23,430**		**$4,950**		**$5,750**	**$12,600**					**$130**
Task 5- Post Construction Phase													
	SubTask 5.1	Record Drawings	8				4	4					
	SubTask 5.2	One Year Warranty Inspection	8				4	4					
Task 5 Subtotal Hours			**16**				**8**	**8**					
Task 5 Subtotal Cost			**$1,840**				**$1,000**	**$840**					
Task 6- Resident Project Representative													
	SubTask 6.1	Part-time RPR Services	700								700		
Task 6 Subtotal Hours			**700**								**700**		
Task 6 Subtotal Cost			**$63,000**								**$63,000**		
SSR LABOR HOURS			**1,159**		**78**		**111**	**248**	**6**		**700**		**16**
SSR LABOR COST			**$116,405**		**$11,700**		**$13,875**	**$26,040**	**$750**		**$63,000**		**$1,040**

Engineer's Estimate of Probable Construction Costs
MWRD Tank Recoating Project
SSR No. 18-41-021.0
Murfreesboro, TN

DESCRIPTION		COST	% OF TOTAL COST
Tiger Hill Tank Recoating	$	615,000	24.2%
Mill Street Tank Recoating	$	1,600,000	63.0%
Halls Hill Tank Repairs and Recoating	$	155,000	6.1%
Design and Construction Engineering Services	$	169,595	6.7%
TOTAL ESTIMATED CONSTRUCTION COST	$	2,539,595	-

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Consent Agenda

DATE: April 22, 2019

TO: Water Resources Board

FROM: Alan Cranford

SUBJECT: Turbidimeter and Distribution Monitoring Panel Replacements
Stones River Water Treatment Plant

Background

Staff is requesting to purchase replacement turbidimeters and a distribution monitoring panel due to equipment age. The Stones River Water Treatment Plant uses the turbidimeters during the treatment process to monitor the clarity of the water throughout the treatment process. The process includes monitoring the raw water, settled water, granular activated carbon (GAC) contactors, membranes filtration, finished water and at the storage tanks. The distribution monitoring panels are panels compactly constructed with instrumentation for measuring chlorine residual, turbidity, pH, conductivity, pressure and temperature. These panels are designed to assist in identifying potential problems that pose risks to public health when they occur in a treatment plant or distribution system.

Staff is requesting to purchase two (2) model TU5300sc turbidimeters for monitoring the raw and settled water and six (6) model TU5400sc turbidimeters for monitoring the GAC contactors and membrane filtration system. The cost of the two (2) TU5300 turbidimeters is $7,664.40 and the cost for the six (6) TU5400 turbidimeters is $42,217.20.

Staff is requesting to purchase one (1) distribution monitoring panel for the high service pump station at the Stones River Water Treatment Plant. This panel is to ensure that the quality is consistent with Department, TDEC and EPA standards and to indicate possible contamination or degradation of the water quality as the water is leaving the plant. Any deviation would allow the plant operator to shut the plant down until the issue was identified and corrected. The cost of the distribution monitoring panel is $16,956.90.

Staff received a quote from HACH, Inc., the sole source vendor for HACH, Inc. manufactured equipment.

Fiscal Impact

The total amount budgeted in the FY19 rate funded capital budget for the turbidimeters is $49,200 and distribution monitoring panel is $17,000. The total cost budgeted is $66,200 for all equipment listed. The total cost for purchasing all the equipment is $66,838.50 plus shipping. The shipping is estimated to be $1,336.77. This is $1,975.27 over budget; however, the entire cost will come from the FY19 rate funded capital budget.

Recommendations

Staff recommends that the Water Resources Board recommend the City Council to approve the purchase of the turbidimeters and distribution monitoring panel in accordance with the quote provided by HACH, Inc.

Attachments

HACH Pricing
HACH Sole Source Letter

Quotation

Hach
PO Box 608
Loveland, CO 80539-0608
Phone: (800) 227-4224
Email: quotes@hach.com
Website: www.hach.com

Quote Number: 100428238v3
Use quote number at time of order to ensure that you receive prices quoted

Quote Date: 03/04/19

Quote Expiration: 05/03/19

MURFREESBORO WTR & SEWER DEPT
5528 Sam Jared Drive
MURFREESBORO, TN 37133

Name: Mike Papula
Phone: 615 848 3222
Fax: 615 848 3244
Email: mpapula@murfreesborotn.gov

Customer Account Number : 042825
Customer Quote Reference: HACH Process and Lab Instrumentation

Sales Contact: Jeannie Radke Email: jeannie.radke@hach.com Phone: 615-521-9605

PRICING QUOTATION

Line	Part Number	Description	Qty	Net Unit Price	Extended Price
1	580801	HACH ENGINEERED SYSTEMS - Water Distribution Monitoring Panel: 32" Panel including all plumbing, wiring, hardware, SC1000 Probe module (4-20mA IN/OUT, Relays, Prognosys), pH Sensor, Conductivity sensor, Pressure sensor, CLF10sc Colorimetric Cl2 analyzer, sc1000 display module w/o GSM and TU5 Series with ACM.	1	16,956.90	16,956.90
2	8627000	KTO: TU5300sc, Sys Chk RFID Flow ACM w/sc200 2 CH	2	3,832.20	7,664.40
3	8627600	KTO: TU5400sc, Sys Chk RFID Flow ACM w/sc200 2 CH	6	7,036.20	42,217.20
				Grand Total	$ 66,838.50

TERMS OF SALE

Freight: Ground Prepay and Add

FCA: Hach's facility

All purchases of Hach Company products and/or services are expressly and without limitation subject to Hach Company's Terms & Conditions of Sale ("Hach TCS"), incorporated herein by reference and published on Hach Company's website at www.hach.com/terms. Hach TCS are contained directly and/or by reference in Hach's offer, order acknowledgment, and invoice documents. The first of the following acts constitutes an acceptance of Hach's offer and not a counteroffer and creates a contract of sale "Contract" in accordance with the Hach TCS: (i) Buyer's issuance of a purchase order document against Hach's offer; (ii) acknowledgement of Buyer's order by Hach; or (iii) commencement of any performance by Hach pursuant to Buyer's order. Provisions contained in Buyer's purchase documents (including electronic commerce interfaces) that materially alter, add to or subtract from the provisions of the Hach TCS are not part of the Contract.

Due to international regulations, a U.S. Department of Commerce Export License may be required. Hach reserves the right to approve specific shipping agents. Wooden boxes suitable for ocean shipment are extra. Specify final destination to ensure proper documentation and packing suitable for international transport. In addition, Hach may require : 1). A statement of intended end-use; 2).Certification that the intended end-use does not relate to proliferation of weapons of mass destruction (prohibited nuclear end use, chemical / biological weapons, missile technology); and 3). Certification that the goods will not be diverted contrary to U.S. and/or applicable laws in force in Buyer's jurisdiction.

ORDER TERMS:
Terms are Subject to Credit Review
Please reference the quotation number on your purchase order.
Sales tax is not included. Applicable sales tax will be added to the invoice based on the U.S. destination, if applicable provide a resale/exemption certificate.
Shipments will be prepaid and added to invoices unless otherwise specified.
Equipment quoted operates with standard U.S. supply voltage.
Hach standard terms and conditions apply to all sales.
Additional terms and conditions apply to orders for service partnerships.
Prices do not include delivery of product. Reference attached Freight Charge Schedule and Collect Handling Fees.
Standard lead time is 30 days.

ORDER TERMS:
Terms are Subject to Credit Review
Please reference the quotation number on your purchase order.
Sales tax is not included. Applicable sales tax will be added to the invoice based on the U.S. destination, if applicable provide a resale/exemption certificate.
Shipments will be prepaid and added to invoices unless otherwise specified.
Equipment quoted operates with standard U.S. supply voltage.
Hach standard terms and conditions apply to all sales.
Additional terms and conditions apply to orders for service partnerships.
Prices do not include delivery of product. Reference attached Freight Charge Schedule and Collect Handling Fees.
Standard lead time is 30 days.
This Quote is good for a one time purchase.

Sales Contact:

Name:	Jeannie Radke
Title:	Regional Sales Manager
Phone:	615-521-9605
Email:	jeannie.radke@hach.com

The Sole Authorized Manufacturer and Direct Distributor Letter

April 16, 2019

Customer Name: MURFREESBORO WATER & SEWER
Customer Address: 300 NW BROAD STREET
Customer City, State & Zip: MURFREESBORO, TN 37130

Customer Account Number: 042825

RE: SOLE SOURCE LETTER – Hach Brand Instruments
Hach Brand Products – Instruments and Chemistry: Brands to include, but not limited to:

Other Hach Brands
Evita, GLI, Hach, Homeland Security Technologies, OPS Systems, Orbisphere, Polymetron, Sigma, Anatel, Dr. Lange, Environmental Test Strips, HIAC, Hydrolab, IQ Scientific Instruments, Lachat Instruments, Leica Microsystems, Marsh-McBirney, Met Onem OTT, Hydrometry, Radiometer Analytical, Sea-Bird Electronics, WET Labs, Hach WIMS™, CLAROS Collect, Mobile Sensor Management

Thank you for your interest in Hach Company products. This letter is to advise that Hach Company is the sole source manufacturer for all Hach branded instrumentation and chemistry. This excludes all resell items, such as glassware, measuring spoons, brushes, and other general lab accessories. Any software or firmware additions or alterations must be purchased directly from Hach Company.

This letter is to confirm that Hach Company is the sole authorized manufacturer and direct distributor of the item(s) listed above.

Thank you for your interest in Hach Company Products. If we can be of further assistance, please contact us at 800-227-4224.

Thank you.

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MEMORANDUM

DATE: April 25, 2019

TO: Water Resources Board

FROM: Donald Hughes

SUBJECT: O&M – Used Equipment Purchase

BACKGROUND

In MWRD's approved FY 2019 O&M Distribution Capital Budget under Replacement Vehicles is a line item for $50,000. Staff is requesting to replace the truck bed and crane for Unit #93. This unit is primarily used when installing main line taps, fire hydrants, and handling heavy meter vaults.

After exploring current market costs between new and used equipment, it was determined a used crane would be a cost-effective solution. We are requesting approval to purchase a *used* National Crane Model 400B located at Utility Equipment Service (UES). We have personally inspected it and it is in very good condition with only 280 PTO hours. Our current crane's lifting capacity is 8,000 lbs. and this crane has a lifting capacity of 20,000 lbs. which is needed to handle meter vaults. UES will provide a 90-day part and labor warranty and a trade in valve of $5,000 for our current crane.

RECOMMENDATION

Staff recommends the Water Resources Board to recommend the City Council to approve the purchase of this used equipment with funding coming from the FY 2019 budgeted capital account.

FISCAL IMPACT

The cost of the reference equipment is in the amount of $44,500. The total amount budgeted included in the rate funded capital budget for FY 2019 is $50,000. (Mounting is included in pricing.)

ATTACHMENTS

Utility Equipment Service, Inc. Quote
Equipment Photos

UTILITY EQUIPMENT SERVICE, inc.

4584 Tom Lunn Road
P O Box 579
Spring Hill, TN 37174
Phone: 931-489-0900
Fax: 931-489-1084
www.1ues.com

April 15, 2019

City of Murfreesboro
Operations and Maintenance
1725 South Church Street
Murfreesboro, TN. 37129

Attention: Mr. Neal Goolsby

Utility Equipment Service, Inc. is pleased to present this quote for a used National Crane Model 400B mounted on your 1996 Chevrolet Top Kick chassis.

1-Removal of current mounted crane, deck body and crane hydraulic system from pump back.

2- Install National Crane Model 400B crane S/N 296280 from hydraulic pump back.
- 46-foot Sheave Height (16-foot jib)
- 20,000 lb. Boom Capacity
- Duel Controls – Lower Standup
- Outriggers – 4 Hydraulic Front and Rear
- Steel Deck with Tool Boxes Mounted - Driver/Passenger Side
- Boom Travel Pedestal
- Stop/Turn/Tail Lighting
- Manual
- Warranty: Ninety (90) Days Part and Labor
- Meets and/or Exceeds all ANSI Requirements

Cost:	$49,500.00
Less Trade-in on your crane system:	($ 5,000.00)
FINAL COST:	**$44,500.00**

Approximate Build Time: 10 to 15 working days from chassis receipt.

We invite you to our yard location in Spring Hill to personally inspect the crane system.
If possible, please bring the chassis so that we all may visually see the scope of this project.

Please let me know when you would be available to visit or if you have any additional questions.

Thank You,

Henry L. Ansel
Outside Sales
Utility Equipment Service, Inc.
931-480-0906 Direct
henry@1ues.com
www.1ues.com


Altec


DANGER
DANGER

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MEMORANDUM

DATE: April 23, 2019

TO: Water Resources Board

FROM: Valerie H. Smith

SUBJECT: Professional Services Contract
Engineering Analysis of Permanent and
Temporary Flow Monitoring Data
To Include Field Inspections

Background

Currently the Department is contracted with ADS, LLC to operate and maintain the Department's nineteen (19) permanent flow monitors and seven (7) rain gauges, to analyze data recorded from these monitors and to report on this data annually. These annual reports, report wet and dry weather capacities and rain dependent inflow and infiltration (RDII) for 18 flow monitor areas. They also are contracted to perform temporary flow monitoring, analyze the temporary data recorded and report findings as well as perform field investigations. The current Professional Services Contract is in its third year and is set to expire June 30, 2019.

ADS has the professional expertise, equipment and personnel (both office and field) to continue to provide service to the Department. We wish to continue to contract their professional service as we have in various forms over the last 27 years. This upcoming contract is written identical to the existing contract, which has been reviewed by Legal in the past. There is an option to extend for two additional one-year periods; however, pricing is not set for Years 2 & 3. Years 2 & 3 pricing will be negotiated based on the CPI for the Southern Region.

Even though this upcoming contract has been reviewed and accepted in the past, the approval is still subject to Legals approval as to form.

Recommendation

Staff recommends that the Board recommend to the City Council to accept entering into a one-year professional services contract with ADS with the option to renew for two additional one-year periods if we remain satisfied with the quality and performance of their work and deliverables.

Fiscal Impact

The use of the quantities/units listed in the contract will be within the estimated budget amount for 2019-2020 of $300,000. The Long-Term Monitoring and Temporary Flow Monitoring quantities/units are completely used; however, the Field Inspections change from year to year, so this portion of the total is used within the budgeted amount.

MURFREESBORO WATER & SEWER DEPARTMENT

PROFESSIONAL SERVICES AGREEMENT

Flow Monitoring and Field Inspection Services

THIS PROFESSIONAL SERVICES AGREEMENT (the "Agreement") is entered into as of _____, by and between the City of Murfreesboro, Tennessee ("City"), a municipal corporation in the State of Tennessee, and ADS LLC ("Engineer"), a Delaware limited liability company, doing business in the State of Tennessee and employing professional engineers duly licensed in the State of Tennessee.

1. Duties and Responsibilities of ENGINEER. Engineer will provide the following services in accordance with the requirement set forth below and consistent with the terms and conditions herein:

1.1 Long Term Flow Monitoring Services

a. Maintain the currently owned 19 ADS long term flow meters, 7 rain gauges and 1 ECHO Level Monitor according to the manufacturer's specifications.

b. Perform remote diagnostics and service for all meters and rain gauges.

c. Collect all data at least once a week and assure that meter is properly functioning.

d. Deliver long term monthly data using interactive web-based tool that enables sites to be viewed and data summarized and archived in tables, hydrographs and scattergraphs to MWSD and others as per MWSD desire and conduct an in-house meeting at the MWSD Engineering Annex.

e. Provide FlowView, an interactive Internet based hosted site that allows users near real time access to flow and rain information, graphing and alarming.

f. Provide one Capacity Performance Summary Report and Wet Weather Performance Summary Report per year for up to 10 significant storm events.

1.2 Temporary Flow Monitoring Services

a. Provide temporary flow monitoring installation, calibration, maintenance, data retrieval, basic analysis, data transfer and meter removal using ADS temporary flow meters. All data must be provided using ADS Profile software or other agreed method. Maintenance shall include replacing faulty sensors and batteries in such a manner so that data acquisition is interrupted as little as possible.

b. Share temporary flow data by using an interactive web base tool that enables sites to be viewed and data summarized and archived in tables, hydrographs and scattergraphs.

1.3 Temporary Flow Monitoring Specifications

a. Temporary flow meters must be capable of continuously measuring pressure depth and velocity at 5 – 15 minute intervals. Depth sensors must be capable of measuring depths from 1.0 and 120 inches by use of a pressure depth sensor to an accuracy of +/-0.35 inches. In addition to pressure sensors, ultra

sonic sensors capable of measuring depth to within 0.125 include shall also be required. Velocity sensors must be capable of measuring velocities from -5.0 to 15.0 fps at depths greater than 1.0 inches to an accuracy of +/-0.04 ft/sec for velocities less than 5.0 fps.

b. Each flow meter must record a valid depth and velocity value for at least 92% (uptime) of the 15-minute readings for the entire study period.

c. Prior to delivery, temporary flow monitoring shall have basic analysis conducted utilizing ADS Profile data analysis software. Basic analysis must include the removal of significant increases and decreases of flow data points with respect to surrounding data points ("pops and drops") and gross calibration adjustments. Data must be directly compatible with upstream or downstream long-term monitoring data format. Detailed data analysis and flow balancing will be accomplished by ADS staff.

d. The Engineer shall maintain each flow meter as per manufacturer's specifications.

e. The Engineer shall provide certification regarding their familiarity with and ability to operate, maintain and analyze data obtained from, ADS Triton and Triton+ flow meters and Rain Alert III Tipping Bucket rain gauges. The Engineer's crews shall be certified by the factory to maintain the Intrinsically Safe (I.S.) MWSD owned Triton flow monitors.

f. The Engineer shall visit each site frequently enough to assure proper meter operation. Logs shall be maintained for each maintenance visit that note the time and date; meter vs. measured depth and velocity values and any corrections required. These logs shall be made available to the City at monthly intervals.

1.4 Field Inspection Services

a. Coordinate with MWSD staff to develop various specific I/I location and reduction projects.

b. Location of wet weather RDII through manhole inspections, smoke testing, dye flooding, wet weather inspections, flow isolations and other means that you consider to be effective. Wet weather inspections and flow isolations will typically be conducted starting within 12-24 hours of a significant storm events that results in Waste Water Treatment Plant flow exceeding 20 MGD (8-13 MGD being typical dry weather rates).

c. Evaluate effectiveness of previous I/I identifications studies and rehabilitation methodology.

d. Assist MWSD staff in determining the need for and best methodology to remove I/I from private sources. This will involve both rehabilitation methodology and concerns regarding work on private property.

e. Identify and advise the City concerning any observations you may have regarding the overall state of their I/I reduction program.

f. Attend meetings with MWSD staff and other service providers (wet weather TV inspection and rehabilitation) as requested.

1.5 Project Office. The Engineer shall maintain a project office within Murfreesboro, TN and be available on very short notice to begin field tasks.

1.6 Street Work. The Engineer shall coordinate with the city of Murfreesboro Traffic Engineering for traffic contract during work at each designated location if such is required. When working in or near lanes of traffic, the Engineer shall provide warning signals and/or flagmen as required by the Manual on Uniform Traffic Control Device, latest revision issued by the Tennessee Department of Transportation, and shall conduct work in such a way as to cause a minimum of inconvenience to motorists.

1.7 Flow Interruptions. Any required interruptions of flow through manholes, wet wells, pump stations or any other portion of the plant sanitary sewer system shall be coordinated with and approval received from the Water and Sewer Department Operations and Maintenance and the Waste Water Treatment Plant prior to the interruption.

1.8 Dangerous Structures. Prior to entering structures, an evaluation of the atmosphere shall be conducted to determine the presence of toxic, flammable vapors or possible lack of oxygen. The evaluation shall be in accordance with local, state and federal safety regulations.

1.9 Manholes. Manhole inspections must be conducted according to the City's newly reorganized and structured forms and entered into new database format as directed. In addition, manhole/pipe connections and the portion of pipe that can be reasonable viewed shall also be inspected. Manhole inspection shall be conducted utilizing manned entry or a manhole inspection camera approved by MWSD. The basic inspection, including obtaining dimensions and general condition, maybe obtained under any weather condition. However, in those manholes suspected of contributing I/I, the manhole inspection shall not be finalized until it is observed during wet weather conditions. This portion of the manhole inspection can be considered as a part of the wet weather inspection process.

1.10 Wet Weather Inspections. Wet weather inspection will be performed for the purpose of isolating particular areas of the sewer system that are receiving significant Rain Dependent Infiltration or Inflow. Manholes in the areas where upstream clear rain induced flow is observed or flow isolation indicates significant I/I must be opened and viewed during the wet weather conditions and any "leaks" documented and photographed. Of particular importance is that SSO area be observed during wet weather. It must, therefore, be conducted when these conditions are present. The Engineer must be available for wet weather inspection within 12-24 hours of being notified that waste water treatment plant flows exceed 20 MGD. This varies by season but typically requires a cumulative rain total of about 4 inches over a several day period. Wet weather inspection results shall be documented by updating previous field forms, through photographs and preparation of a brief written report.

1.11 Flow Isolation. Flow Isolation shall be conducted between midnight and 6:00 AM during high groundwater conditions typically within a 12-24 hour period following cessation of run-off resulting from a significant rain event. Flow isolation shall proceed from

upstream portions of the system to downstream portions and shall take into account estimated sewerage travel time. Flow isolation logs shall be prepared by Engineer that include date, time, isolation location, flow quantity, infiltration estimate, sum of upstream isolation flow quantities (if upstream sewers not plugged) and pertinent comments. These logs shall be provided to the City upon completion of this project.

1.12 Smoke Testing. Smoke testing must be done during dry weather conditions. MWSD newly revised and approved field forms shall be used and data may be required in electronic format already entered into the new database format. MWSD typically considers dry weather conditions to exist when no rain exceeding 0.25-inch per 24 hours has occurred within the previous 24 hours and the ground is not visibly wet from smaller events or from larger events that occurred more than 24 hours in the past.

1.13 Dye Testing. Dye testing shall consist of flooding a potential I/I source with dyed water and observing the most immediate downstream manhole and noting whether dyed water is observed along with the time and quantity of the observed dye. Dye flooding is the best accomplished during an actual storm event. However, a storm event may be simulated by use of a jet truck or some similar water source. All observations shall be documented with photographs and diagrams on a field form.

1.14 Occupational Safety.

a. Engineer will comply at all times with OSHA/TOSHA requirements, including, but not limited to, all OSHA related confined space entry requirements (29 CFR 1910.146) shall be conformed to including: ventilation, protecting clothing, availability of oxygen, harnesses, etc.

b. Under 39 CFR 1910-146 Section (c), paragraph (9), responsibilities of the Engineer include the following:

1) Engineer must comply with the permit space requirements that apply to the City.

2) Obtain from the City any available information regarding the permit space hazards and entry operations.

3) Coordinate entry operations with City if both City personnel and Engineer personnel will be working simultaneously as authorized entrants in the permit space.

4) Describe to City the permit space program that will be followed and advise City of any hazards encountered or created in the permit space.

1.15 Quality and Safety. The ENGINEER shall provide assurance that they maintain and enforce quality processes and safety standards for all field service work. The Engineer shall provide evidence that they maintain and enforce a quality process of ensuring data integrity in all data analysis.

1.16 Miscellaneous.

a. The Engineer shall submit satisfactory evidence of having the manpower, facilities, equipment, and a program to offer the operations and data processing services required by this specification.

b. The Engineer shall manage and coordinate each of the long-term monitoring, temporary monitoring and field inspection portions of this agreement. The Engineer shall compare flow monitoring results with field investigation results and assist MWSD regarding its task of determining to what extend I/I sources have been locate.

c. The Engineer shall attend meetings with other team members including the wet weather TV contractor, the rehabilitation contractor and MWSD staff and give presentation regarding their potion of the tasks and provide options regarding the overall project.

2. Duties and Responsibilities of the City. The City shall provide the following items at no additional cost to the Engineer: (i) detailed location maps for each field inspection and metering site; (ii) physical access to each manhole to be inspected or meter. All meter sites are accessible by regular vehicle or a reasonable walk; and (3) Linear footage and inch-mile data upstream of each flow meter.

3. Term.

3.1 The term of this contract shall be between July 1, 2019 and June 30, 2020 or as extended by the City. The City may opt to renew this Agreement for two additional one-year periods.

a. Should the City desire to renew the contract, a written preliminary notice will be furnished to the Engineer prior to the expiration date of the contract; provided however, this preliminary notice will not be deemed to commit City to renew.

b. Upon receipt of City's preliminary notice, the Engineer shall submit a written agreement to continue contract performance for an additional one-year period.

3.2 In all cases contract renewals shall be approved by Council, and sufficient appropriations shall have been made for the particular fiscal year for which the renewal is sought.

4. Payment to Engineer. The City shall pay Engineer's invoices within 30 days after the date they are issued by Engineer. The City shall pay the Engineer as follows for tasks that the City requests the Engineer to perform.

5. Fee Schedules. Engineer will be compensated in accordance with the following table for the work indicated therein. All unit prices will remain unchanged during the first year. Should the City opt to renew the contract, the City and Engineer will discuss adjustment of the unit prices but in no event will unit prices increase greater than the CPI (Southern Urban All Items (1982-1984=100)) as last reported by the U.S. Bureau of Labor Statistic as of the expiration date of the then current term of the Agreement.

5.1 Long Term Flow Monitoring

Item	Description	# of Units	2019-2020 YEAR 1 Unit Price	2019-2020 YEAR 1 Total Price (1)
1	Turnkey Operations, Parts, Maintenance, Data Collection, Data Analysis, Monthly Data Delivery and Monthly Meetings for 19 meters.	228	$ 832.09	$ 189,717.56
2	Turnkey Operations, Parts, Maintenance, Data Collection, Data Analysis, Monthly Data Delivery and Monthly Meetings for 7 Rain Gauges.	84	$ 286.83	$ 24,093.68
3	Wet Weather and Capacity Performance Summary Report	1	included	
4	FlowView Operations Set-up for additional sites added to network	26	$265.83	6,911.52
5	FlowView Operations Monthly Service per site per month	312	$ 42.53	$ 13,270.88
6	ECHO Service, Wireless & FlowView Monthly Charge	12	$103.20	$ 1,238.43
			Total:	**$ 228,320.55**
Notes:	(1) Future years 2 & 3 indexed to CPI increases			

*Monthly service items will be billed at the beginning of the month for which services are to be provided.
**FlowView Set-up fee is a one-time event at the initial set up. Monthly service fee starts immediately upon setup.

5.2 Temporary Flow Monitoring

TFM	# of Monitors	# of Days	YEAR 1 Rate	Total
Equipment Rental, Service including parts, Meter Installation, Calibration, Collect, Analysis, Removal, for 1st 30 days	6	30	$143.54	$25,837.63
Collect, Confirmation, Analysis for days>30*	6	30	$74.43	$13,397.56
			Total:	**$39,235.19**

*Temporary Flow monitoring extensions assumes extensions in increments of 1 month (30 days)

5.3 Field Inspections (SSES)

SSES	Number	Units	YEAR 1 Rate	Total
Flow Isolation Readings	50	each	$248.81	$12,440.37
Wet Weather Inspection	40	Hrs.	$267.95	$10,718.05
Manhole Inspection with Data Entry	400	each	$106.33	$42,530.78
Smoke Testing w/ Data Entry	100,000	Lf.	$0.45	$44,924.00
Dye	25	each	$398.73	$9,968.28
PM Consultation	10	Hrs.	$153.11	$1,531.09
Field Crew Rate	0	Hrs.	$223.29	
TOTAL (using estimated quantities)			**Total:**	**$122,112.57**

6. Termination

6.1 For Breach. In the event that any of the provision of the Contract are violated by the ENGINEER, the City may serve written notice upon the ENGINEER of its intention to terminate the Contract, and unless within seven (7) days after the serving of such notice upon the ENGINEER such violation or delay shall cease and satisfactory arrangement for correction be made, the City may immediately terminate the Contract at any time after said seven (7) days. Such termination shall not relieve the

ENGINEER of any liability to the City for damages sustained by virtue of any breach by the ENGINEER.

6.2 For Lack of Funding. Should funding for this contract be discontinued, the City shall have the right to terminate the contract immediately upon written notice to the Engineer.

6.3 For Convenience. Either party may terminate this contract at any time upon 30 days written notice to the other Party. In that event, the Engineer shall be entitled to receive just and equitable compensation for any satisfactory authorized work completed as of the termination date and City shall be entitled to completion of all work begun at the time of notice of termination.

7. Compliance with Laws. The Engineer agrees to comply with any applicable federal, state, and local laws and regulations.

8. Notices.

8.1 Notices to the City including but not limited to notice of assignment of any rights to money due to the Engineer under this Contract must be mailed or hand delivered as follows:

City Manager
City of Murfreesboro
111 West Vine Street
Murfreesboro, Tennessee 37130

With a copy to:

Darren Gore
Director
Water & Sewer Department
City of Murfreesboro
111 West Vine Street
Murfreesboro, Tennessee 37130

8.2 Notices to the Engineer shall be mailed or hand delivered to:

Luis Mijares
ADS Environmental Services
340 The Bridge Street, Suite 204
Huntsville, AL 35806.

9. Maintenance of Records. The Engineer shall maintain documentation for all charges associated with services provided pursuant to this Contract. The books, records, and documents of the Engineer, insofar as they relate to work performed or money received under the Contract, shall be maintained for a period of three full years from the date of final payment and will be subject to audit at any reasonable time and upon reasonable notice by the City or its duly appointed representatives. The records shall be maintained in accordance with generally accepted accounting principles.

10. Modification of Contract. This Contract may be modified only by written amendment executed by all parties and their signatories hereto. Depending upon the nature and amount of the amendment, the approval of the City Council and/or the Water and Sewer Board may be required. Minor modifications to the Contract may be approved by the Director of the Water and Sewer Department and /or the City Manager in lieu of the City's signatory hereto.

11. **Partnership/Joint Venture.** Nothing herein shall in anyway be construed or intended to create a partnership or joint venture between the parties or to create the relationship of principal and agent between or among any of the parties. None of the parties hereto shall hold itself out in a manner contrary to the terms of this paragraph. No party shall become liable for any representation, act or omission of any other party contrary to the terms of this paragraph.

12. **Waiver**. No waiver of any provision of this Contract shall affect the right of any party thereafter to enforce such provision or to exercise any right or remedy available to it in the event of any other default.

13. **Employment**. The Engineer shall not subscribe to any personnel policy which permits or allows for the promotion, demotion, employment, dismissal or laying of any individual due to race, creed, color, national origin, age, sex, or which is in violation of applicable laws concerning the employment of individuals with disabilities.

14. **Non-Discrimination**. It is the policy of the City not to discriminate on the basis of age, race, sex, color, national origin, or disability in its hiring and employment practices, or in admission to, access to, operation of its programs, services, and activities. With regard to all aspects of this Contract, the Engineer certifies and warrants it will comply with this policy.

15. **Indemnification and Hold Harmless.** The Engineer shall indemnify, defend, and hold harmless the City, its officers, agents, and employees from Any claims, damages, costs and attorney fees for injuries or damages arising, in part or in whole, from the negligent or intentional acts or omissions of the Engineer, its officers, employees and/or agents, including its sub- or independent Engineers, in connection with the performance of the Contract, and, any claims, damages, penalties, costs and attorney fees arising from any failure of Engineer, its officers, employees and/or agents, including its sub- or Independent engineers, to observe applicable laws, including, but not limited to, labor laws and minimum wage laws.

16. **Insurance.** The Engineer must maintain commercial general liability and professional liability insurance for bodily injury and property damage cover at a minimum $1,000,000 and workers' compensation insurance as required by the State of Tennessee. ENGINEER WILL PROVIDE TO CITY BEFORE ANY WORK IS UNDERTAKEN A CERTIFICATE OF INSURANCE DEMONSTRATING THE REQUIRED CGL AND PROFESSIONAL LIABILITY COVERAGE IS IN PLACE AND AN ENDORSEMENT TO THE REQUIRED CGL LIABILITY POLICY THAT ENDORSES THE CITY OF MURFREESBORO AS AN ADDITIONAL INSURED. The Engineer must notify the City prior to the insurance policy is renewed, cancelled, or altered in any manner and provide written documentation of such alteration.

17. **Successors and Assigns**. The provisions of the Contract shall inure to the benefit of and shall be binding upon the respective successors and assignees of the parties hereto. Except for the rights of money due to Engineer under this Contract, neither this Contract nor any of the rights and obligations of the Engineer hereunder shall be assigned or transferred in whole or in part without the prior written consent of the City. Any such assignment or transfer shall not release the Engineer from its obligations hereunder.

18. **Entire Contract**. This Contract sets forth the entire agreement between the parties with respect to the subject matter hereof and shall govern the respective duties and obligations of the parties.

19. **Governing Law.** The validity, construction and effect of this Contract and any and all extensions and /or modifications thereof shall be governed by the laws of the State of Tennessee. Tennessee law shall govern regardless of any language in any attachment or other document that the ENGINEER may provide.

20. **Venue.** Any action between the parties arising from this agreement shall be maintained in the courts of Rutherford County, Tennessee.

21. **Severability.** Should any provision of this Contract be declared to be invalid by any court of Competent jurisdiction, such provision shall be severed and shall not affect the validity of the remaining provisions of this Contract.

22. **Effective Date.** This Contract shall not be binding upon the parties until it has been signed first by the ENGINEER and then approved by the City Council and signed by the Mayor. When it has been so signed, the Contract shall be effective as of the date first written above.

CITY OF MURFREESBORO **ADS, LLC**

_____ _____

By: Shane McFarland
Its: Mayor

by: _____
Its: _____

Approved as to form:

_____
Craig D. Tindall, City of Attorney

MINUTES
MURFREESBORO WATER RESOURCES BOARD
April 2, 2019

The Murfreesboro Water Resources Board met on Tuesday, April 2, 2019 in the conference room at the Operations and Maintenance Building, 1725 S. Church Street. Present at the meeting were Board members: Dr. Al Carter, Mr. Ron Crabtree, Mr. Brian Kidd, Ms. Sandra Trail, Ms. Madelyn Scales-Harris, and Mr. Kirt Wade. Also present were Darren Gore, Doug Swann, Valerie Smith, Michele Pinkston, Anita Heck, Adam Tucker, Steve Tate, Jimmy Stacey, Donald Hughes, Randy McCullough, Alan Cranford, Joe Russell, Sharon Seibert, Josh Upham, Jay Bradley, Mike Bernard, and Lynda Sullivan, along with other members of the public.

The Consent Agenda was presented for the following considerations:

A. Consider SSR Engineering Task Order 19-41-002.0, Water Resource Recovery Facility Capacity Improvements Studies –

Staff wishes to determine the peak hydraulic capacity of a portion of the WWRF facilities extending from the Final Clarifiers water surface elevation to the West Fork Stones River. Determining the potential impacts of decreasing the inflow to the WRRF Main Pump Station (MPS) by the re-routing of flows around the MPS via the existing Southwest Regional Pumping Station, the expanded Overall Creek Pump Station (OCSP) and the planned Northeast Regional Pumping Station are a necessary component of this study.

The Department just finalized its 20-yr strategic planning document entitled 2018 Water Resources Integration Plan (WRIP). This document sought to capture the strategic cornerstones necessary for the Water Resources Department to prepare for Murfreesboro's and Rutherford County's growth through 2035.

From that document there were "Action Plan" sections in each chapter with items labeled as "New Initiatives". Staff believes that several of these items are critical to implement in the next several months for use as tactical guides to chart out MWRD's priority capital improvements and identify the most efficient and effective development of our water, wastewater and stormwater infrastructure needs.

The Department has experienced wet-weather challenges at the WRRF. Though MWRD has made progress in reducing wet weather I/I, the collection system continues to expand and the regionalization of pumping facilities has relieved flow from the Department's two longest interceptors. Combined, these two positive outcomes increase the system's overall capacity to convey more flow to the WRRF. Unless significant decreases in RDII can be recognized, wet-weather treatment at the WRRF will be necessary to ensure the facility continues to operate effectively under all weather conditions.

Staff recommended the Board recommend to City Council approval of SSR Task Order 19-41-002.0. The fee associated with this task order is $48,305 and is anticipated to be completed within 60

calendar days. This fee is requested to come from the Department's Water and Sewer working capital reserves. Overall Creek and the WRRF Wet-Weather Treatment projects are identified on the Department's 5-yr Capital Improvements Plan (CIP) in the amount of $1,900,000 for FY19 and FY20.

B. Consider SSR Engineering Task Order 19-41-004.0, Capacity Study of the Existing Overall Creek Pump Station –

The capacity study of Overall Creek pump station (OSPS) will include a population and flow study of the Overall Creek drainage basin to include relevant flow monitoring basins (MF13, MF13A, and MF13B). The study will be used to determine if a need exists to upgrade the OCPS and the associated force mains, based on a 20-yr projection.

The Department has experienced some challenges with surging conditions at the headworks facility of the WRRF. Prior to the Southwest Regional Pump Station coming online, a vast majority of the raw wastewater flow entered the plant through a single pump station (i.e. Main Pump Station). The Southwest Regional Pump Station has reduced the amount of flow entering the Main Lift Station, creating opportunities for the Main Pump Station to cut on and off. The intermittent operation of the Main Lift Station pumps has created flow surges at the headworks facility. The Overall Creek Pump Station also discharges directly to the headworks facility, and with the constant speed drives and continuous on and off operation throughout the day, the station can create flow surges at the headworks. MWRD is currently planning to replace the constant speed drives with VFDs to better match the station sewage inflow and help reduce these flow surges. With the planned design and construction of the Northeast Regional Pump Station, additional flow will be relieved from the Main Lift Station, creating an even greater opportunity for intermittent operation of the pumps there. This could potentially amplify the surge conditions seen at the headworks.

Staff recommended the Board recommend to City Council approval of SSR Task Order 19-41-004.0. The fee associated with this task order is $35,908 and is anticipated to be completed within 45 calendar days. This fee is requested to come from the Department's Water and Sewer working capital reserves.

C. Consider SSR Engineering Task Order 19-41-003.0, Stormwater Modeling of Subwatershed–

Staff wishes to determine effective Stormwater Control Measures (SCM's) for three sensitive subwatersheds with areas of large imperviousness. This project will utilize InfoSWMM to model the subwatersheds, rainfall events, and potential Stormwater Control Measures. SSR's modeling and analysis are to be done in conjunction with an existing MWRD staff employee so that all modeling scenarios are integrated into the Department's ArcGIS Geographic Information System (GIS).

GIS plays a crucial role in managing stormwater. A GIS-based stormwater model of the City's watersheds not only would help monitor and manage existing stormwater practices but also would allow analysis of vulnerable areas, optimization of existing facilities, and identification of potential locations for

stormwater control measures (SCMs). Watershed models like InfoSWMM Sustain performs very sophisticated hydrologic and water quality modeling in watersheds and urban streams and would enable MWRD to develop, evaluate, and select optimal combination of stormwater control measures, Low Impact Development (LID) and Sustainable Urban Drainage Systems (SUDS) at various watershed scales on the basis of cost and effectiveness. It can be effectively used to evaluate complex decisions about green infrastructure selection and placement, performance, and costs for meeting flow or water quality targets or both. It would enable MWRD to maximize water quality benefits and minimize stormwater management costs.

Staff recommended the Board recommend to City Council approval of SSR Task Order 19-41-003.0. The fee associated with this task order is $50,000 and is anticipated to be completed within 90 calendar days. This fee is requested to come from the Department's Stormwater working capital reserves.

D. Consider O&M vehicle purchase –

Staff is requesting to replace unit #77. The vehicle has 157,908 miles and has several oil leaks and transmission problems. The desired vehicle was included on the State of Tennessee Vehicle Contract with Ford of Murfreesboro.

VEHICLE DETAILS			
Qty	**Description**	**Cost**	**Budgeted**
1	2019 Ford F-250 4x2 SD Super Cab	$35,204.50	$35,000.00

Staff recommended the Board to recommend the City Council to approve the purchase of this vehicle in the amount of $35,204.50 with funding coming from the FY19 budgeted capital account.

E. Consider truck purchase for Water Resource Recovery Facility (WRRF) –

The Department employs several Plant Operators. In the course of their work, they use trucks to drive between the Department's two farms, STEP Systems, Reuse towers, Oxygen plant, around the plant, and perform various other tasks.

The Board approved staff's request to budget funds in the amount of $50,000 for the purchase of this new truck. This truck would be purchased in accordance with the statewide contract with Ford of Murfreesboro in the amount of $32,613.

Staff recommended the Board recommend to City Council approving the purchase of one Ford F-150 Crew Cab Truck.

F. Consider biosolids trailer purchase for WRRF –

The Water Resource Recovery Facility dewaters the sludge that is a byproduct of the wastewater treatment process. Currently, over 50,000,000 lbs. of dewatered sludge are hauled annually to the landfill utilizing the Department's Biosolids Trailers and Semi-Trucks.

The Board approved staff's request to budget funds in the amount of $60,000 for the purchase of a replacement Biosolids Trailer. An Invitation to Bid to supply this equipment was advertised. Two bids were received.

Company	Bid
Fleet Equipment	$52,185
Tishomingo Acquisition dba Ox Trailers	$47,000

Staff recommended the Board recommend to City Council approving the purchase of one Biosolids Trailer from Tishomingo Acquisition (dba) Ox Trailers in the amount of $47,000.

G. Consider John Bouchard and Sons Task Order 19-01 for installation of Fournier biosolids press at the WRRF –

The Water Resource Recovery Facility utilizes 8 Fournier Industry Inc. Rotary Biosolids Presses to dewater the sludge that is a byproduct of the wastewater treatment process. Currently, over 50,000,000 lbs. of dewatered sludge are trucked annually to the landfill by the Department for final disposal.

The Biosolids facility was constructed in 1999 with four presses and commissioned in 2000. Of those presses, only one has not been replaced. In January of 2019, the Board and City Council approved replacing that fourth and final press with the understanding that John Bouchard & Sons would perform the installation work. The Task Order for this project is now complete.

Staff recommended the Board recommend to City Council approving Task Order 19-01 for the WRRF Fournier Dewatering Press Installation in the amount of $79,872 from John Bouchard & Sons Co. Funding will be from the Department's rate funded capital account.

H. Consider Stones River Water Treatment Plant chemical bids –

Invitations to Bid water treatment chemicals for use at the Stones River Water Treatment Plant were advertised and bids were publicly opened on March 25, 2019.

The raw bid tabulation is as follows with bid prices including freight. A NB indicates there was no bid.

Company Name	**Calcium Oxide Price / lb**	**Calcium Thiosulfate Price / lb**	**Phosphate Price / lb**	**Polyelectrolyte Coagulant Aid Price / lb**	**Sodium Permanganate Price / lb**
American Development Corporation	NB	0.508	0.8420	NB	0.762
Brenntag Mid-South	NB	NB	0.4530	NB	NB
Carmeuse	0.11462	NB	NB	NB	NB
Chemrite	0.09990	NB	0.5800	NB	0.801
Polydyne, Inc.	NB	NB	NB	0.910	NB
Shannon Chemical	NB	NB	0.6600	NB	0.850
Sterling Water Technologies	NB	NB	0.4792	NB	NB
Univar	NB	NB	NB	NB	NB

Staff has reviewed the bid submissions and determined the lowest responsible and responsive bidders. There were several products that were bid that did not meet the bid specifications.

The price of the chemicals will be reflected in the FY20 Operating Budget with a contract price through June 30, 2020. The estimated annual expense for FY20 Operating Budget is identified in the table below.

Staff recommended that the Board recommend to City Council approving the bids from the following responsive and responsible bidders as identified below.

Company Name	Chemical	Unit Price/lb	Estimated Annual Expense
American Development Corporation	Calcium Thiosulfate	$0.508	$10,000
American Development Corporation	Phosphate	$0.842	$45,000
American Development Corporation	Sodium Permanganate	$0.762	$285,000
Carmeuse	Calcium Oxide	$0.11462	$220,000
Polydyne	Coagulant Aid	$0.910	$40,000

Staff has previously worked with all the above suppliers. All chemical suppliers have a good working relationship with the Department for the chemicals being supplied.

A motion was made by Sandra Trail to accept the Consent Agenda as presented and it was seconded by Brian Kidd. The Board voted unanimously to approve.

The February 26, 2019 Board Minutes were unanimously accepted as written.

The Board considered revision to CUD/MWRD boundary.

SEC, Inc., on behalf of the Developer, has made a request for 203, 207, 209, 213, 219 and 303 Yearwood Avenue to be served by MWRD for water service and fire protection.

The Department has an existing 16” water main along N. Rutherford Blvd., whereas CUD only has an existing 2” water main along Yearwood Drive. Their existing line would not provide the required fire protection for the proposed development.

Instead of just serving these properties, Consolidated Utility District approved to release this entire area west of Yearwood Avenue at their December Board meeting. Amendment document #6 will be prepared by our Legal Department to be executed by both parties.

Staff recommended that the Board recommend to City Council to approve the revision to the CUD/MWRD boundary and the Mayor executing an amendment to the Water Service Boundary.

Sandra Trail made a motion to approve. Madelyn Scales-Harris seconded. The motion unanimously passed.

The Board considered Department participation with the Farrer’s for sewer main rehabilitation along Brinkley Avenue.

The Farrer's own F&B Mobile Home Park (Park) along Brinkley Avenue off NW Broad Street. Staff is unsure of what year this Mobile Home Park was built, but approximately 900' of 8" sanitary sewer main to serve the Park was extended at that time. Typically, the Department has files or record drawings of the installation, but we do not have any for this project.

Per the Chapter 29-Subdivisions, Maps and Plats of the City Code, the Department is to maintain public sewer to each lot of record; therefore, technically at this time, this sewer should be a public sewer main that we are to operate and maintain since it serves other properties along Brinkley Avenue. This is not to say that when the sewer main was first extended it was a public line. But through the course of the years and development along Brinkley it should technically be public now.

Even though this main may not have intended to be a public main at the time of installation, from time to time, the Department would receive stopped sewer calls from the residents. Since we did not have easement for the sewer main or access for proper maintenance, because of there being mobile homes on top of the main and manholes, the normal process would be for staff to contact the Farrer's and they would handle the necessary repairs to this line to unstop the sewer. This was the normal process because the Farrer's did not want to move the mobile homes for us to make repairs and cause displacement of one or more residents.

Since this sewer main has not been properly maintained over the years, it has gotten to a state of disrepair. Staff has attempted to televise but was unsuccessful even in the first line segment due to broke pipe and roots. Staff fully believes it would cost more to make repairs to the main, to get it to a condition that it could be rehabbed from the inside, than to just dig it up and replace it.

When the Farrer's approached staff regarding the proposed redevelopment, staff discussed with the Farrer's the replacement of the sewer main. Staff doesn't believe it to be completely fair for the Farrer's to bear the cost of full replacement, since it technically should be the Department's to maintain at this point. But we also believe that it shouldn't completely be our responsibility either since we didn't have the proper access for maintenance.

Staff requests to participate with the Farrer's in an amount it would cost us to rehab the sewer main and manholes from the inside, without adding the cost of making any repairs to get the sewer to a state that this could be done. The Farrer's would then dig and replace the sewer main and manholes once the mobile homes are relocated and with the redevelopment of the property.

The estimated cost for the rehab of the sewer, per our existing sewer rehabilitation contract, would be a total of $42,870. The full replacement of the sewer main is estimated at approximately $85,000. This participation amount is requested to come from the Department's working capital reserves. There are adequate reserves to fund this amount.

Staff recommended the Board recommend to City Council approval of the participation in the amount of $42,870.

Brian Kidd made a motion to approve. Kirt Wade seconded. The motion unanimously passed.

The Board considered a proposal from SSR for SRWTP Auxiliary Raw Water Intake Control System Upgrade.

Staff submitted JBS Task Order No. 18-05 for the Water/Wastewater Mechanical/Electrical Services Contract to replace the variable frequency drives (VFDs) at the Auxiliary (Lake) Raw Water Pump Station at the October 2018 Board meeting. In addition to replacing the drives at the intake, the control system needs upgrading due to age and maintenance of the system. The current control system was installed in 1999 and is obsolete making repairs difficult and soon impossible.

SSR is conducting this work in conjunction with John Bouchard & Sons performing Task Order No. 18-05. The Scope of Work for SSR is:

- Furnish one ControlLogix PLC System to upgrade the existing SCL5/05 PLC system and one PanelView Plus 7 Operator Interface Terminal (OIT) at the Auxiliary Pump Station.
- Furnish one Remove I/O PLC System on a pre-fabricated back panel to replace the existing back panel in the Chemical Dosage control panel to control the chemical feed system.
- All PLC/HMI programming is included to upgrade the PLC to a ControlLogix platform.

The cost for providing the professional engineering services and integration service for the control system is $87,850. The FY19 Capital Budget has $235,000 budgeted for replacing the drives. Of the $235,000 budgeted, $215,710.50 was approved for Task Order No. 18-05, leaving $19,289.50 in the FY19 Capital Budget. Staff is recommending using funds for HVAC replacement, in the amount of $78,000, to fund the shortfall. The HVAC replacement will be budgeted for future replacement. The total project cost is $303,560.50 leaving $9,439.50 underbudget.

Staff recommended the Board recommend to the City Council approving SSR to perform the work for the Auxiliary Raw Water Pump Station Control System Upgrade in accordance with their estimate.

Sandra Trail made a motion to approve. Ron Crabtree seconded. The motion unanimously passed.

The Board considered SSR Engineering Task Order 19-41-001.0, Preparation of an Updated 201 Facilities Plan.

The project will include preparation of a 201 Facilities Plan update (the Plan) to include MWRD's sanitary sewage collection and treatment systems. The Plan will incorporate all updates and system changes since the previous 2002 Plan was completed. Since the Department now allows decentralized sewer service in certain circumstances, our plan for servicing outlying properties within our defined service area will need to change. The Plan will be developed so as to conform with the requirements of the Clean Water State Revolving Fund (SRF) Facilities Plan document outline and Environmental Protection Agency Guidance for Preparing a Facility Plan, EPA-430/9-76-015 in the event SRF monies are used to fund any future capital projects that are derived from the Plan.

The Department just finalized its 20-yr strategic planning document entitled our 2018 Water Resources Integration Plan (WRIP). This document sought to capture the strategic cornerstones necessary

for the Water Resources Department to prepare for Murfreesboro's and Rutherford County's growth through 2035.

From that document there were "Action Plan" sections in each chapter with items labeled as "New Initiatives". Staff believes that several of these items are critical to implement in the next several months for use as tactical guides to chart out MWRD's priority capital improvements and identify the most efficient and effective development of our water, wastewater and stormwater infrastructure needs.

The Tennessee State Revolving Fund (SRF) requires that a utility maintain an updated Facilities Plan that summarizes the tactical activities required to provide service to current and future customers. These are commonly referred to as 201 Facilities Plans. While periodic minor updates to the MWRD Facilities Plan have been made in concert with specific projects, the last comprehensive update to the document was completed in 2001. As a result of major changes to annexation laws in 2014, MWRD's policy regarding sewer service was modified. These modifications have significantly changed the population and flow projections contained in this WRIP. The Facilities Plan should be updated to reflect the change in policy and the resulting changes in projected sewer system growth.

Staff recommended the Board recommend to City Council approval of SSR Task Order 19-41-001.0. The fee associated with this task order is $249,860 and is anticipated to be completed within 360 calendar days. This fee is requested to come from the Department's Water and Sewer working capital reserves.

Sandra Trail made a motion to approve. Kirt Wade seconded. The motion unanimously passed.

The Board was informed of the Mill Street, Tiger Hill and Halls Hill Storage Tank Repair and Recoating project.

Staff monitors the status of all five of the drinking water storage tanks for service condition including cleanliness and coating status. There are three tanks that need recoating (repainting). The Mill Street tank is a two million-gallon steel elevated storage tank that was constructed in 1973, the Tiger Hill tank is a three million-gallon steel ground storage tank that was constructed in 1983 and the Halls Hill tank is a three million-gallon concrete ground storage tank that was constructed in 1972. The Mill Street and Tiger Hill tanks were last painted (recoated) in 2007. The last coating application on the Mill Street tank is experiencing a coating failure and there are several repairs and improvements that are needed at that location. The Tiger Hill tank needs recoating, however its existing coating is in a condition that allows recoating over the existing paint. The Halls Hill tank was last recoated with concrete repairs in 2012, however it is experiencing spalling on the exterior and needs more extensive repair along with recoating. Staff has requested SSR to provide engineering services in conjunction with recoating these three tanks due to the complexity of this project.

At the Mill Street tank there are several modifications and repairs that are needed in addition to the recoating of the tank. The estimated cost of all work to the tank is $1,600,000.

At the Tiger Hill tank there are several repairs that are needed in addition to the recoating of the tank. The estimated cost of all work to the tank is $615,000.

At the Halls Hill tank there are several repairs that are needed. The estimated cost of all work to the tank is $155,000.

SSR's scope for this project includes engineering services for the preparation of specifications suitable for both bidding and construction of the recoating project as well as permitting with local and state agencies. Fees, as required for reviews and permits, will be billed as a direct pass through reimbursable at SSR's costs. They will also provide Construction Administration and Resident Project Representative Services on the project. In addition, SSR will commission a NACE Certified Coatings Inspector to observe all Critical Phase work. SSR estimates that construction will be fully complete in approximately 255 days from issued Notice to Proceed date with consideration to weekend and weather days. SSR proposes an hourly not-to-exceed fee of $169,595 for the design, bidding, and construction phase services for the recoating of the Mill Street elevated and Tiger Hill ground storage tanks.

The original estimate slated for the Department's 5-year CIP for this project was $1,500,000. After a detailed review of the work that is required and updating the original estimate, the new estimate has changed to $2,539,595.

The Board considered FY2022 Pro Forma and FY2020 Rate Recommendation.

The Murfreesboro Water Resources Department was provided a cost of service study (COSS) from Jackson Thornton Utilities Consultants for FY2017 and an FY2022 Pro Forma that was the basis for recommending no rate increases for FY2019. MWRD staff has updated the pro forma with FY2018 rate revenue and is again recommending no rate increase for FY2020. The FY2022 pro forma was run using two scenarios:

1) A "Base" scenario assuming no new debt was added between FY17 and FY22. This assumes using reserves on hand to pay for $35,000,000 in capital projects.
2) A scenario where $35,000,000 in debt (20-yr @ 2%) is incurred to pay for the Northeast Regional Pumping Station and Force main as well as the necessary capital equipment to perform full scale biosolids drying at the Water Resource Recovery Facility (WRRF). Full payback of the total loan amount was assumed to start in FY2022.

Table 1 compares the FY22 pro forma revenue requirements for the Water Resources fund to the FY18 actual rate revenue over-recovered. This scenario assumes no debt will be incurred within the five-year timeframe.

Table 1: FY18 Rate Revenue compared to FY22 Pro Forma (No Debt Scenario)

	Water	# Annual Billings	Sewer	# Annual Billings	Total
FY22 Pro Forma	$13,937,439	313,554	$22,820,180	518,318	$36,757,619
FY18 Rate Revenue	$14,414,743	313,554	$27,814,643	518,318	$42,229,386
Difference	**$(477,304)**	**0**	**$(4,994,463)**	**0**	**$(5,471,767)**

The total difference of $(5,471,767) is seen as the "revenue surplus" that the Department anticipates over the four-year timeframe. The over-recovery of FY18 projected cost of service by $2.9M covers the anticipated FY22 added expenses by approximately $1.0M. By adding the $1.0M to a $4.4M reduction in debt service equals the $5.4M revenue surplus.

Table 2 compares the FY22 pro forma revenue requirements for the Water Resources fund to the FY18 actual rate revenue over-recovered. This scenario assumes $35,000,000 will be incurred within the five-year timeframe to pay for the Northeast Regional Pumping Station and Forcemain and the capital equipment for full scale biosolids drying at the Water Resource Recovery Facility (WRRF).

Table 2: FY18 Rate Revenue compared to FY22 Pro Forma ($35M Debt Scenario)

	Water	# Annual Billings	Sewer	# Annual Billings	Total
FY22 Pro Forma	$13,937,439	313,554	$24,966,415	518,318	$38,903,854
FY18 Rate Revenue	$14,414,743	313,554	$27,814,643	518,318	$42,229,386
Difference	**$(477,304)**	**0**	**$(2,848,228)**	**0**	**$(3,325,532)**

The total difference of $(3,325,532) is seen as the "revenue surplus" that the Department anticipates over the five-year timeframe while incurring $35,000,000 in debt. The over-recovery of FY18 cost of service by $2.9M covers the anticipated FY22 added expenses by approximately $1.0M. Add the $1.0M to a $4.4M reduction in debt service and then subtract the $2.1M addition to debt service equals the $3.3M revenue surplus.

Based on the debt service coming off the rate revenue requirements for sewer and the over-recovery witnessed in FY18 that will cover the next four years of anticipated expenses, staff does not recommend a rate increase for FY20. For the average household, affordability indexes are maintained.

The possibility exists to fall somewhere between paying for the full $35M from reserves or financing through loans. Also, in the fall of 2019, staff will be requesting the Board to approve funding the Department's FY19 cost of service study as an update to our revenue requirements and capital funding needs.

Sandra Trail made a motion to approve. Kirt Wade seconded. The motion unanimously passed.

Staff presented and discussed the Water Resources Dashboard Performance for February 2019.

Staff presented the Financial Reports for the year ending February 28, 2019.

There being no further business, the meeting was adjourned.

Alphonse Carter, Jr, Vice Chairman

City of MURFREESBORO TENNESSEE

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MEMORANDUM

DATE: April 22, 2019

TO: Water Resources Board

FROM: Valerie H. Smith

SUBJECT: Main Stay Suites
John Rice Blvd.
Sewer Upsizing

Background

Staff received construction plans for the Main Stay Suites the beginning of January this year for detailed review of the project. During our review of the project staff discovered that we have somewhat of a unique situation with the existing sewer mains in this area. It has been researched and verified that there is an existing 10" sewer main on-site extending from John Rice Blvd to the east and under I-24 for a total of two sections of 10" sewer. What is unique about this is that there is a 12" sewer main upstream, west of John Rice Blvd, feeding into this 10" main as well as an 8" sewer main from the south. It is not a typical occurrence to find this situation, with a larger line feeding into a smaller line, and I myself only know of one other location in the sewer system that this occurs.

Staff has studied the area served by this 10" sewer main and has determined that it would be in the Department's best interest to upsize the section of 10" sewer through the Mainstay Suites. The upsizing of this line is best to serve this area collectively due to the area being developed at a higher density than originally planned and not because of this Mainstay Suites project. The Mainstay Suites project does not affect the size of this section of 10" main simply because they are connecting to an existing manhole at the rear of the site. But staff would like to contract with the Developer to upsize this section of sewer, using our participation policy and development contract, so it can be constructed/upsized during their construction of the hotel and on their schedule by their contractor. Staff doesn't feel that the Mainstay Suites development should have to pay for the associated engineering, construction or inspection & video costs for this upsize again because they are not affecting the size of this section.

A few points per the Department's participation policy, within our approved Policies, Procedures & General Design Requirements adopted in 2009 by the Board & Council are:

1. Prior to dedication and acceptance of the improvements by the City, the Developer requesting reimbursement must present to the City Council a detailed statement of the actual eligible costs and the City Council in its discretion may amend the agreement, and the reimbursement amount, to reflect the actual project costs.
2. Should a project be eligible for participation by the City due to upsizing of a water or sewer line, the Department reserves the right to publicly bid the project or the portion of the project eligible for participation.

3. Participation in the cost to upsize water and/or sewer lines shall be in accordance with established policies in effect. The Department or Developer can prepare a schedule of upsize participation, based on recent bid results or agreed upon unit pricing, which the Department and the Developer may accept in lieu of publicly bidding, subject to approval of the Water and Sewer Board and City Council.
4. The Department will only participate on that portion of sewer deeper than twelve (12) feet deep, if the sewer is upsized and if the material changes.
5. Sewer must extend to the limits of construction at strategic locations for future extension.

The Mainstay Suites Developer has agreed, if the Board approves the payment of the full cost, to upsize this section of sewer main. He has received engineering and construction costs associated with the upsize of this 120 linear feet of sewer main and they are attached. The total cost is $45,300. If rock is not encountered during the replacement, then this amount will be reduced by $5000. We request to fund the full amount for the construction of the upsize.

Recommendation

Staff recommends the Board recommend to City Council approval of the funding for the replacement and upsize in the amount of $45,300.

Fiscal Impact

This amount is requested to come from the Department's working capital reserves. There are adequate reserves to fund this amount.

Attachments

Engineers Estimate
GIS Exhibit

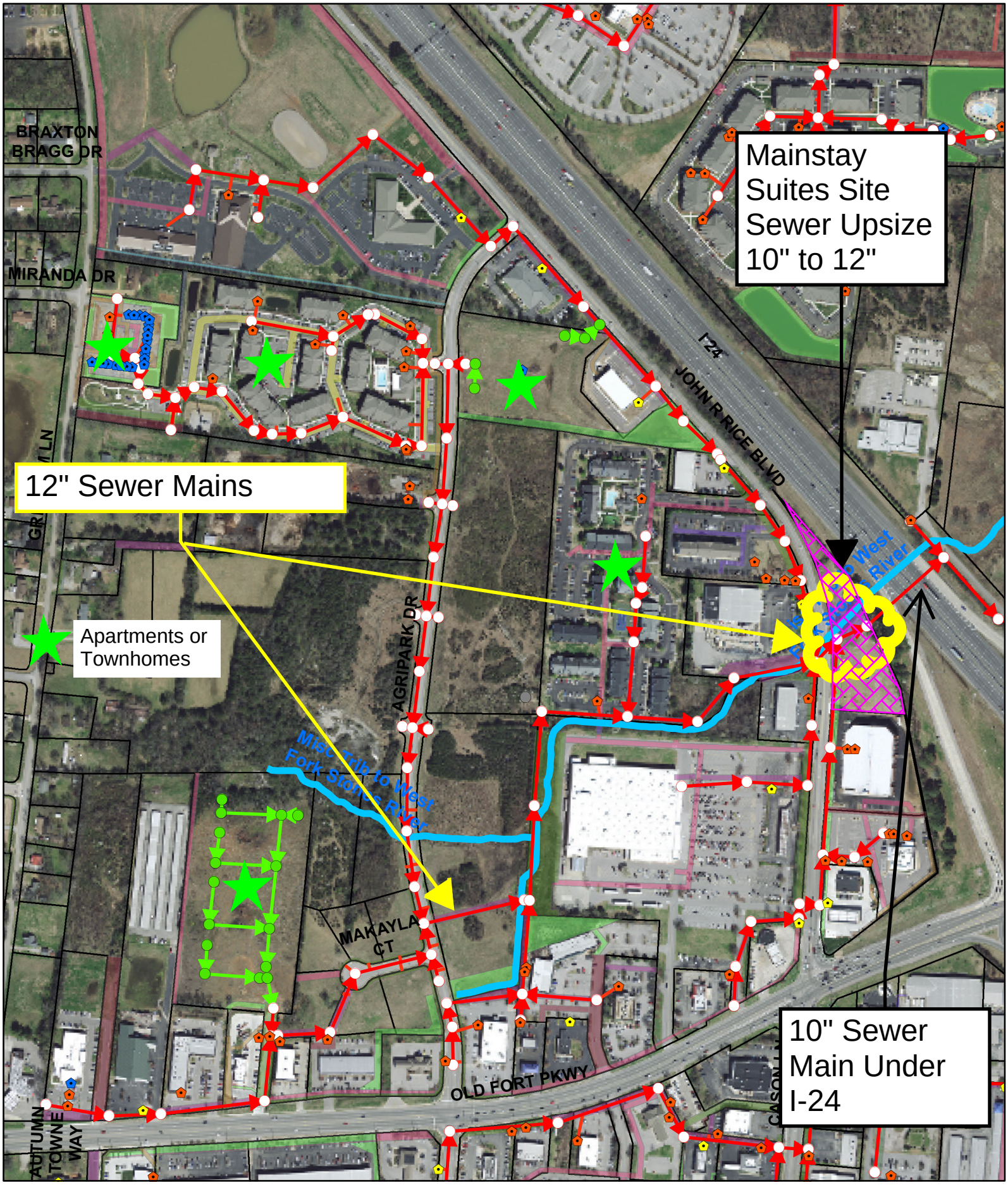
ARNOLD CONSULTING

SCHEDULE OF VALUES & UNIT PRICES

Job: **MAINSTAY SUITES - MURFREESBORO, TN**

Date:	**4/9/2019**	**Estimator:**	K Golden
Contact:	**City of Murfreesboro - Water Resources Department**	**Phone:**	270-780-9445
Phone:	**615-893-1223**	**Fax:**	270-780-9873
Fax:		**E-mail:**	kgoldenaces@gmail.com

	Phase	Description of Item	Qty.	Unit Cost	Item Total	Phase Total
					-	
	ENGINEERING/SURVEY	ENGINEERING SEWER LINE & GENERATE LEGAL DESCRIPTION… LS	1.00	$3,500.00	$3,500.00	**$3,500.00**
	SANITARY SEWER	MOBILIZATION… LS	1.00	$1,500.00	$1,500.00	
		DIG IN AN CORE EX MH… LS	1.00	$4,000.00	$4,000.00	
		UPGRADE FROM 10" PVC TO 12" SDR-26… LF	120.00	$225.00	$27,000.00	
		CORE EX MH AND CONNECT NEW SEWER… LS	1.00	$2,800.00	$2,800.00	
		RESTORATION - SEED & STRAW… LS	1.00	$1,500.00	$1,500.00	
		ROCK REMOVAL - ALLOWANCE… LS	1.00	$5,000.00	$5,000.00	**$41,800.00**
				TOTAL	**$45,300.00**	



Murfreesboro Water Resources Department

Mainstay Suites
Sewer Main Upsize

1 Inch = 450 Feet

City of MURFREESBORO TENNESSEE

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MEMORANDUM

DATE: April 25, 2019

TO: Water Resources Board

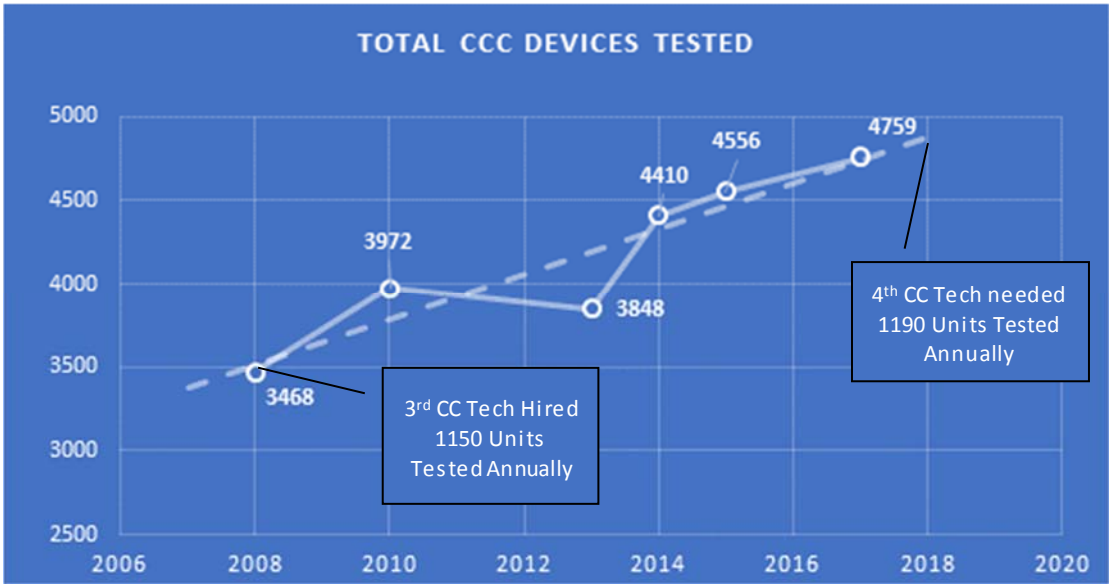
FROM: Alan Cranford

SUBJECT: Cross-Connection Control Testing Charge Increase
Stones River Water Treatment Plant

Background

Staff is requesting increase the cross-connection control testing charge starting July 1, 2019. MWRD's cross-connection control testing charge was started in 2009, and the charges have not increased. In 2009, there was 3,845 devices tested and certified by the Department each year. The cross-connection program budget was approximately $220,000 per year. The testing charge was anticipated to provide an estimated revenue of $133,000 to offset some of these expenses.

In 2017, the Department was testing 4,759 devices annually. This is an increase of 914 devices in eight (8) years. As a result, in August 2019, the Department hired another Cross-Connection Control Technician to keep up with the required testing annually (see chart below). In 2019, the Department is testing 4,855 devices annually.



The table below shows the actual revenue from the testing charges during FY 17, 18 and 19.

	FY17	FY18	FY19 (YTD 3/19/19)
Revenue (Actual)	$131,200	$126,570	$126,860
Expenses (Actual)	$243,955	$222,997	$207,205
Difference (Actual)	($112,755)	($96,427)	($80,345)

The table below shows that testing charges for middle Tennessee utilities.

Utility Name	Domestic (annual)	Fire Line (annual)
Brentwood	$55/device	$95/device
Clarksville	$55/device	$55/device
Gallatin	$40/device	$40/device
Nolensville	$60/device	$100/device

The table below shows the current testing charges established in 2009 versus the proposed charges starting July 1, 2019.

	Current (since 2009) CCC testing charge	Proposed CCC testing charge
Annual Test	$35/device	$45/device
1st Retest	$0/device	$0/device
2nd Retest	$50/device	$60/device
3rd Retest	$100/device	$125/device
Fire line (if bypass is present)	$70/fireline	$75/fireline

Fiscal Impact

The $10/device increase charge for annual testing alone will provide an additional $48,550/year for the current number of 4,855 devices.

Recommendations

Staff recommends that the Water Resources Board recommend the City Council to approve the increase in cross-connection control testing charges starting July 1, 2019, in accordance with Staff recommendations.

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MEMORANDUM

DATE: April 24, 2019

TO: Water Resources Board

FROM: John Strickland

SUBJECT: Request to Purchase – Three (3) Aerators

BACKGROUND

The Oxidation Ditches at the Water Resource Recovery Facility are a key unit of the treatment process. The system relies on nine 200 HP Aerators mechanically introducing oxygen into the mixed liquid. Three of the Aerators were commissioned in 2017 as part of the 4D treatment facility expansion. The original six Aerators were commissioned in 2000.

Maintenance staff with advice from the manufacturer have determined that the almost 20 years old original Aerators are at the ends of their lifecycles. One Aerator was scheduled for replacement in 2018. To ensure adequate treatment capacity, three more Aerators need to be replaced.

This request is for the purchase of the equipment only. The cost of installing the Aerators, through the Department's standing contract with John Bouchard & Sons, is estimated at $72,000. Task Order 19-05 will be developed and brought to the Board for approval.

Also, note that new Original Equipment Manufacturer (OEM) parts are only available from a sole source (Ovivo USA, LLC) and that the lead time from order to delivery is approximately 10 months.

RECOMMENDATION

Staff recommends the Water Resources Board recommend to City Council approving the purchase of three (3) Oxidation Ditch Aerators and associated parts in the amount of $383,022 from Ovivo USA, LLC.

FISCAL IMPACT

Two (2) of the Aerators will be funded from the Department's working capital reserves and one (1) will be funded from the Department's rate funded capital account.

ATTACHMENTS

Sole Source Letter
Quote

Ovivo USA, LLC
4246 Riverboat Road, Suite 300
Salt Lake City, Utah
84123-2583 USA

Telephone: 801.931.3000
Facsimile: 801.931.3080
www.ovivowater.com

OVIVO Worldwide Experts in Water Treatment

October 18, 2018

Sinking Creek WWTP
2032 Blanton Drive
Murfreesboro, TN 37129

To whom it may concern:

Please be advised OVIVO USA, LLC (Formerly known as Eimco Water Technologies – EWT) is the "sole supplier" of all original: EIMCO, EIMCO Process Equipment, Baker Process, EIMCO Water Technologies, EIMCO Municipal Water and Wastewater Equipment and Parts.

OVIVO USA, LLC's sole designated Sales Representative for your area is:

Principle Environmental Inc.
2014 South Long Hollow Road
Trion, GA 30753
John Harward

Purchase orders are to be made out to: Ovivo USA, LLC and will be invoiced directly.

Respectfully,

Daniel Kirby

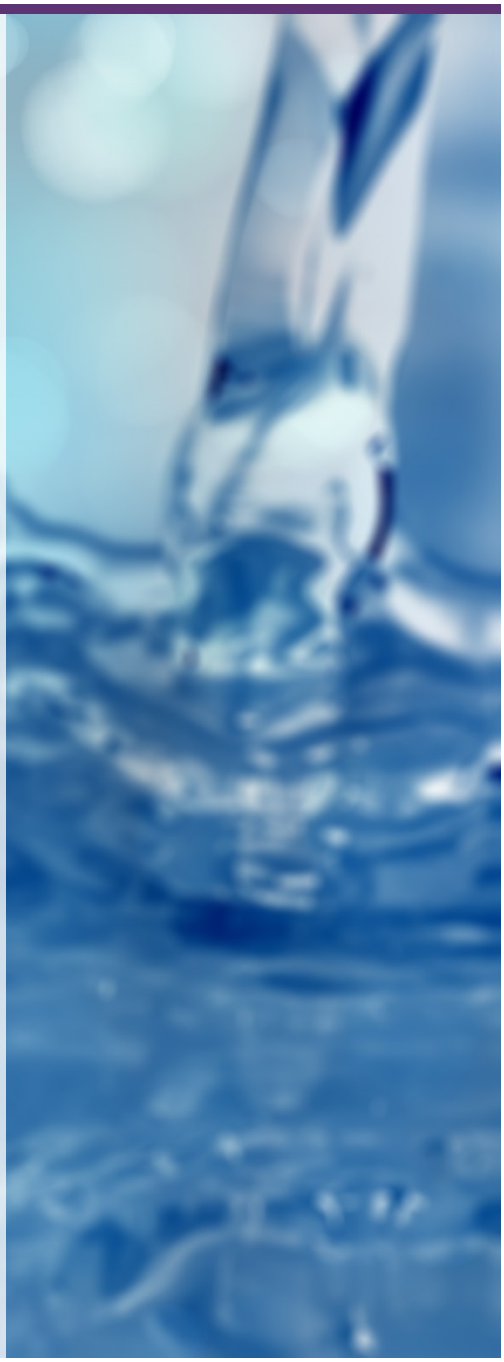
Daniel Kirby
Project Manager, Aeration Processes
Office Phone: (801) 931-3177
Email: daniel.kirby@ovivowater.com

OVIVO Worldwide Experts in Water Treatment

PROPOSAL
Q2019040401 Rev 2

DATE: April 24, 2019

SINKING CREEK WASTEWATER TREATMENT PLANT



PREPARED FOR

Murfreesboro Water & Sewer Department

AREA REPRESENTATIVE

Eco-Tech, Inc.
Mike Bartlett
mbartlett@eco-tech.net

PREPARED BY

Daniel Kirby
Phone (801) 931-3177
Fax (801) 931-3090
daniel.kirby@ovivowater.com

Ovivo USA, LLC
4246 Riverboat Road – Suite 300
Salt Lake City, Utah 84123-2583

TO: **Murfreesboro Water & Sewer Department**

BID DATE: **N/A**

Ovivo USA, LLC is pleased to submit a proposal for the following equipment (the "Products") on the project indicated above (the "Project"). This proposal, either in its original form or in its "as sold" format, constitutes Ovivo's contractual offer of goods and services in connection with the Project. Please contact Ovivo's sales representative in your area for any questions or comments you may have in connection with this proposal. The address is:

Eco-Tech
156 Hickory Springs
Industrial Dr.
Canton, GA 30115

Attention: Mike Bartlett
Telephone: (678) 880-1205
Email: *mbartlett@eco-tech.net*

BID PRICING

ITEM	DESCRIPTION	ESTIMATED SHIP DATE*	PRICE
I	Three (3) 200 HP Excell®Aerator - Motor/Reducer Replacement Included: motor, reducer, mounting plate, adapter shaft.	*	$383,022.00

DELIVERY FOR CARROUSEL® SYSTEM

*Ovivo will submit drawings for approval within eight (8) weeks after Purchaser's receipt of Ovivo's written acknowledgement of an approved purchase order. Ovivo intends to ship all Products twenty (28) weeks after receipt of approved drawings from Purchaser.

GENERAL NOTES

The dates of drawing submission and shipment of the Products represents Ovivo's best estimate, but is not guaranteed, and Ovivo shall not be liable for any damages due to late delivery. The Products shall be delivered to the delivery point or points in accordance with the delivery terms stated in this proposal. If such delivery is prevented or postponed by reason of Force Majeure, as defined in Ovivo's standard terms and conditions of sale, Ovivo shall be entitled at its option to tender delivery to Purchaser at the point or points of manufacture, and in default of Purchaser's acceptance of delivery, to cause the Products to be stored at such a point or points of manufacture at Purchaser's expense. Such tender, if accepted, or such storage, shall constitute delivery for all purposes of this proposal. If shipment is postponed at request of Purchaser, or due to delay in receipt of shipping instructions, payment of the purchase price shall be due on notice from Ovivo that the Products are ready for shipment. Handling, moving, storage, insurance and other charges thereafter incurred by Ovivo with respect to the Products shall be for the account of Purchaser and shall be paid by Purchaser when invoiced.

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MEMORANDUM

DATE: April 15, 2019

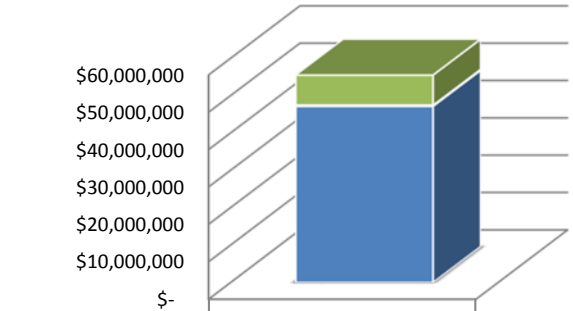
TO: Water Resources Board

FROM: Darren Gore, Doug Swann

SUBJECT: Murfreesboro Water Resources Department and Stormwater Fund 2019-2020 (FY20) **Draft Budget**

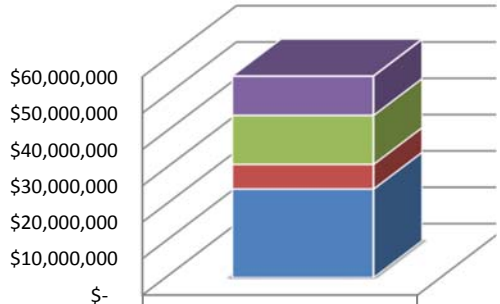
The Water Resources FY20 draft budget is balanced and is not expected to deviate significantly from the overall revenue and expense total of $55,430,000. This amount is a $2,852,000 over the FY19 budget and $650,709 under FY19 projected revenues.

Total Revenues, $55.43M



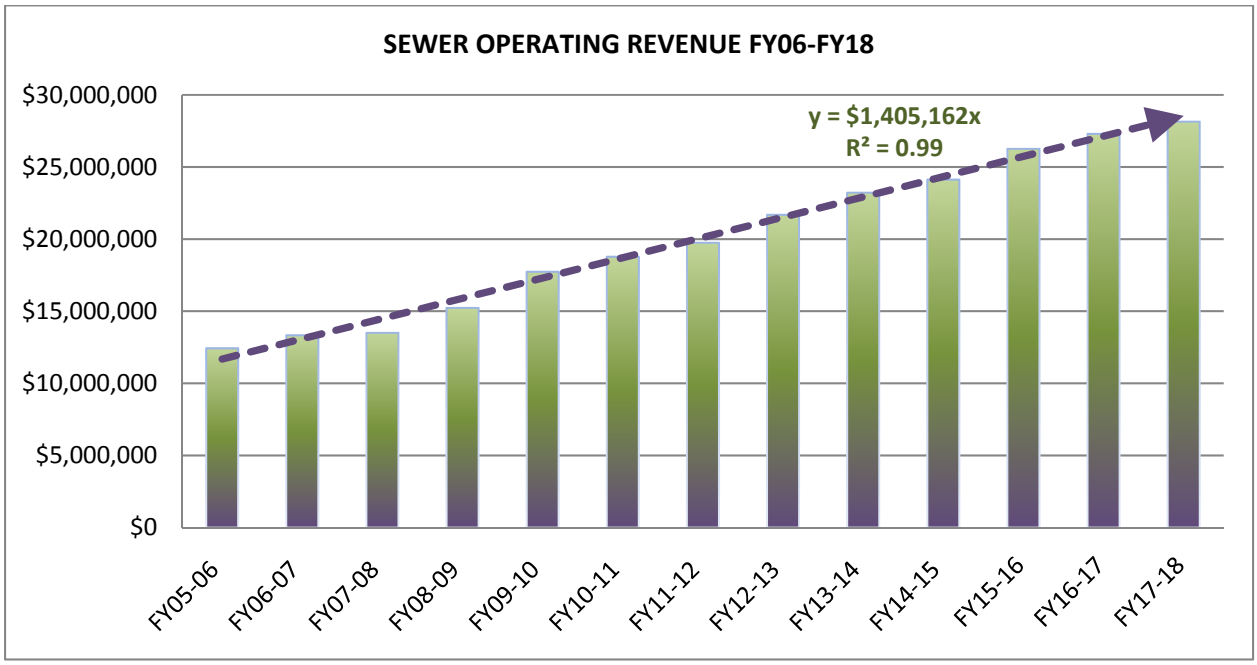
	FY20 BUDGET
TAP REVENUE	$8,000,000
INTEREST INCOME OTHER INVEST.	$350,000
TOTAL OPERATING REVENUES	$47,080,000

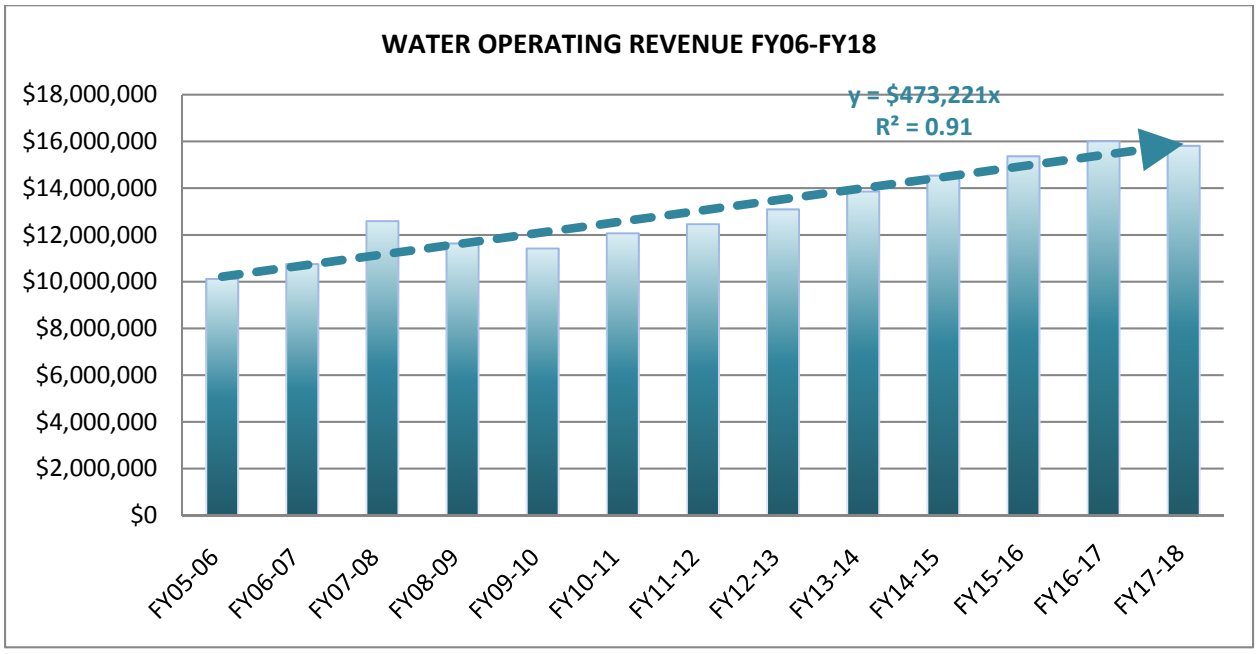
Total Expenses, $55.43M



	FY20 BUDGET
TRANSFERS TO RESERVES	$10,812,663
DEBT SERVICE	$13,488,320
CAPITAL EXPENDITURES	$6,797,741
TOTAL OPERATING EXPENDITURES	$24,331,276

The $2,852,000 increase in budget can be attributed to sewer and water revenue trends totaling approximately $1,880,000 (see graphs below) plus approximately $1,080,000 in interest income and tap revenue.





$2,382,163 of sinking funds are being earmarked to assign the excess revenue for future construction or repair and replacement. The sinking funds identified below have been assigned rate revenue since FY12. The total FY20 earmarked amounts and FY12-19 "banked" amounts are as tabulated below:

Table 1: Designated Sinking Funds FY12-19 and FY20 Budget

Sinking Fund	FY12-19 Balance	FY20 Budget Designated	FY20 Budget Balance
General	1,400,000		1,400,000
Lift Station Replacement	876,232	250,000	1,126,232
NE FM & PS	2,891,254	500,000	3,391,254
WRRF Sludge/Biosolids	2,300,000	500,000	2,800,000
Walter Hill Dam Repairs	250,000	125,000	375,000

Sinking Fund	FY12-19 Balance	FY20 Budget Designated	FY20 Budget Balance
Sewer Rehab	1,000,000	1,000,000	2,000,000
Future Debt	4,159,380		4,159,380
Future Capital Expense	6,620,969	7,163	6,628,132
TOTALS	**19,497,835**	**2,382,163**	**21,879,998**

The use of sinking funds reduces the need to incur debt thereby alleviating the need for future rate increases.

The Murfreesboro Water Resources Department was provided a cost of service study (COSS) from Jackson Thornton Utilities Consultants for FY2017 and an FY2022 Pro Forma that was the basis for recommending no rate increases for FY2019. MWRD Staff has updated the pro forma with FY2018 rate revenue and is again recommending no rate increase for FY2020. The FY2022 pro forma was run using two scenarios:

1) A "Base" scenario assuming no new debt was added between FY17 and FY22. This assumes using reserves on hand to pay for $35,000,000 in capital projects.
2) A scenario where $35,000,000 in debt (20-yr @ 2%) is incurred to pay for the Northeast Regional Pumping Station and Force main as well as the necessary capital equipment to perform full scale biosolids drying at the Water Resource Recovery Facility (WRRF). Full payback of the total loan amount was assumed to start in FY2022.

Table 2 compares the FY22 pro forma revenue requirements for the Water Resources fund to the FY18 actual rate revenue over-recovered. This scenario assumes no debt will be incurred within the five-year timeframe.

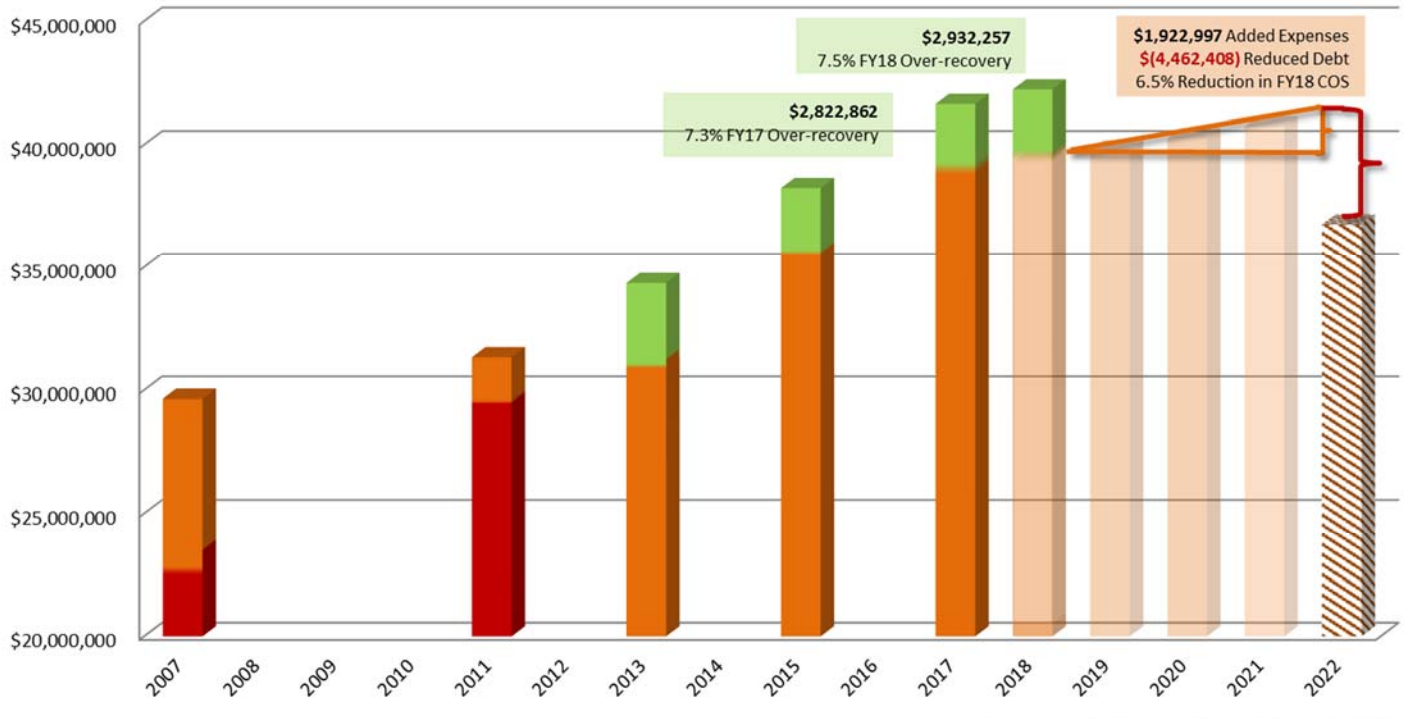
Table 1: FY18 Rate Revenue compared to FY22 Pro Forma (No Debt Scenario)

	Water	# Annual Billings	Sewer	# Annual Billings	Total
FY22 Pro Forma	$13,937,439	313,554	$22,820,180	518,318	$36,757,619
FY18 Rate Revenue	$14,414,743	313,554	$27,814,643	518,318	$42,229,386
Difference	**$(477,304)**	**0**	**$(4,994,463)**	**0**	**$(5,471,767)**

The total difference of $(5,471,767) is seen as the "revenue surplus" that the Department anticipates over the four-year timeframe. Chart 2 below better illustrates the historical cost of service studies and the FY22 pro forma projected revenue requirements. The over-recovery of FY18 projected cost of service by $2.9M covers the anticipated FY22 added expenses by approximately $1.0M. By adding the $1.0M to a

$4.4M reduction in debt service equals the $5.4M revenue surplus.

Chart 2: Historical COS Studies and FY22 Pro Forma (No Debt Scenario)



	2007 COSS	2007 Recov	2011 COSS	2011 Recov	2013 COSS	2013 Recov	2015 COSS	2015 Recov	2017 COSS	2017 Recov	2018 COSS	2018 Recov	2019 Pro Forma	2020 Pro Forma	2021 Pro Forma	2022 Pro Forma
Total	$29,650,00	$23,498,62	$31,328,53	$29,507,83	$31,244,19	$34,353,14	$35,175,52	$38,243,42	$38,816,28	$41,639,14	$39,297,12	$42,229,38	$39,777,97	$40,258,82	$40,739,67	$36,757,61

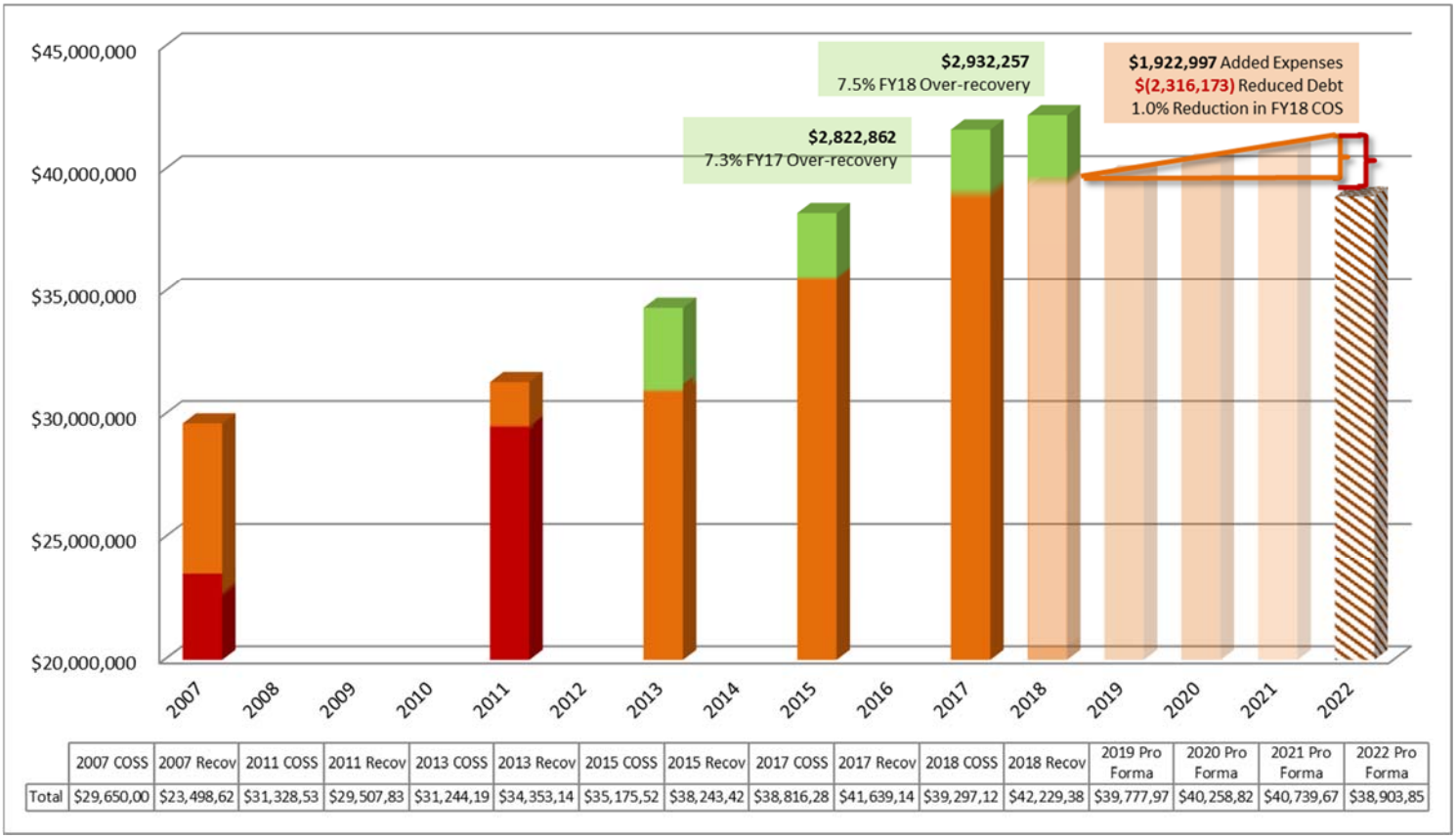
Table 3 compares the FY22 pro forma revenue requirements for the Water Resources fund to the FY18 actual rate revenue over-recovered. This scenario assumes $35,000,000 will be incurred within the five-year timeframe to pay for the Northeast Regional Pumping Station and Forcemain and the capital equipment for full scale biosolids drying at the Water Resource Recovery Facility (WRRF).

Table 3: FY18 Rate Revenue compared to FY22 Pro Forma ($35M Debt Scenario)

	Water	# Annual Billings	Sewer	# Annual Billings	Total
FY22 Pro Forma	$13,937,439	313,554	$24,966,415	518,318	$38,903,854
FY18 Rate Revenue	$14,414,743	313,554	$27,814,643	518,318	$42,229,386
Difference	**$(477,304)**	**0**	**$(2,848,228)**	**0**	**$(3,325,532)**

The total difference of $(3,325,532) is seen as the "revenue surplus" that the Department anticipates over the five-year timeframe while incurring $35,000,000 in debt. Chart 3 below better illustrates the historical cost of service studies and the FY22 pro forma projected revenue requirements. The over-recovery of FY18 cost of service by $2.9M covers the anticipated FY22 added expenses by approximately $1.0M. Add the $1.0M to a $4.4M reduction in debt service and then subtract the $2.1M addition to debt service equals the $3.3M revenue surplus.

Chart 3: Historical COS Studies and FY22 Pro Forma ($35M Debt Scenario)



	2007 COSS	2007 Recov	2011 COSS	2011 Recov	2013 COSS	2013 Recov	2015 COSS	2015 Recov	2017 COSS	2017 Recov	2018 COSS	2018 Recov	2019 Pro Forma	2020 Pro Forma	2021 Pro Forma	2022 Pro Forma
Total	$29,650,00	$23,498,62	$31,328,53	$29,507,83	$31,244,19	$34,353,14	$35,175,52	$38,243,42	$38,816,28	$41,639,14	$39,297,12	$42,229,38	$39,777,97	$40,258,82	$40,739,67	$38,903,85

Based on the debt service coming off the rate revenue requirements for sewer and the over-recovery witnessed in FY18 that will cover the next four (4) years of anticipated expenses, staff does not recommend a rate increase for FY20.

The water rate is recommended to remain at $3.66 per 1,000 gallons ($0.00366 per gallon) and the sewer rate is recommended to remain at $5.67 per 1,000 gallons ($.00567 per gallon). The average monthly bill for an MWRD customer that uses 5,200 gallons per month for water and 4,800 gallons per month of sewer will remain the same, or $66.70 per month.

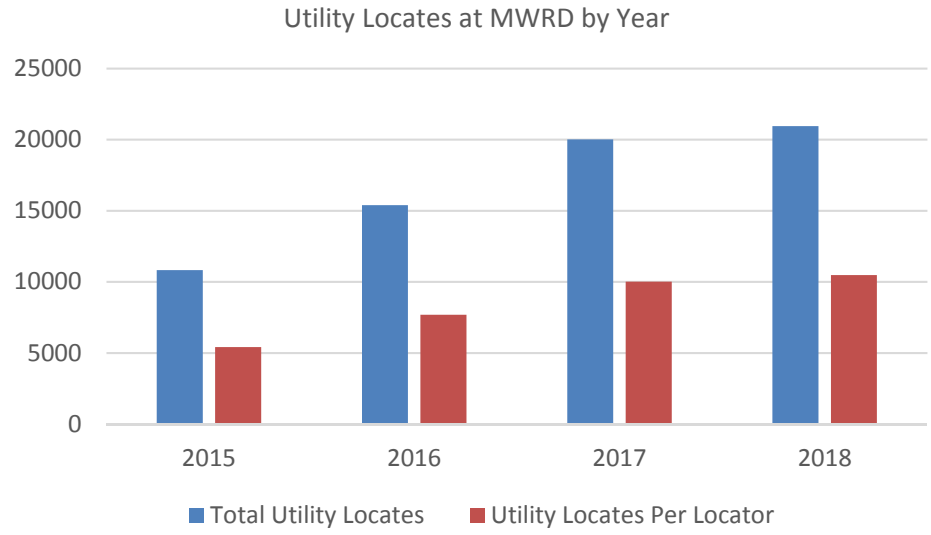
Staff is not recommending any changes to the system development charges (a.k.a., connection fees) for residential or nonresidential uses.

The FY20 total operating expenses, including benefits and payroll, increased $1,979,534 or 8.9% over the FY19 budgeted amount. $1,031,520 of this total increase is a result of Admin and General expenses increasing primarily due to property insurance reimbursed to the City, health insurance expense, retiree health insurance and retirement vacation and sick pay.

The FY20 budget includes two (2) new additional staffing requests; a maintenance technician and utility locator at Operations and Maintenance. There are four (5) reclassification requests; three of which are upgraded positions and two of which are downgraded positions. The total net increase anticipated in the personnel budget is $731,164, a 9.6% increase from the FY19 budget. This increase accounts for the FY19 pay plan adjustments affecting the entire department of approximately $350,000 and the two new positions at $80,000. The actual increase accounting for FY20 pay raises and reclassification adjustments is approximately $300,000, representing a 4.0% increase. There are a total of 175 full time and five (5)

part time positions budgeted for FY20. Included in the full-time positions are eight (8) positions in the stormwater department.

1. Operations and Maintenance – Two new positions are requested:
    a. A Maintenance Technician to aid in the operation and maintenance of the collections system's lift stations. We have one maintenance tech close to retirement and this new position is a succession planning request.
    b. A Utility Locator to aid in the increased volume of work involving locating water and sewer facilities involved with new development construction and redevelopment construction. The chart below shows that in 2015 the two locaters that MWRD currently utilize were around 5,000 locates per year compared to 2017 and 2018 where they are around 10,000 locates per year. A third locater would take the annual volume back to around 7,000 locates per locator.



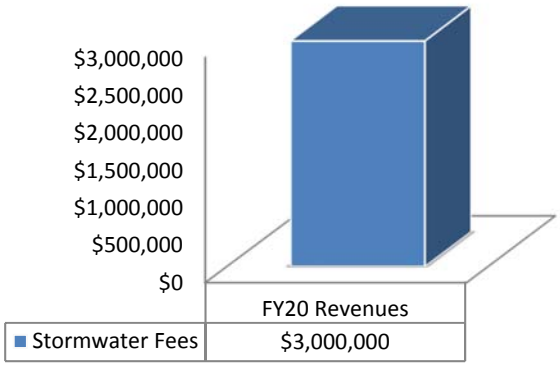
2. Administration/Finance – Two reclassifications are requested:
    a. An Accounting Specialist I is requested to be reclassified as an Administrative Aide I for billing, accounting and other customer service business functions.
    b. A Community Affairs Manager is requested to be reclassified as an Administrative Aide I to aid in preparing newsletters, communication material associated with outreach events and managing social media accounts.
3. Customer Service – One reclassification is requested; a Customer Service Clerk is requested to be reclassified as an Administrative Aide I for billing, accounting and other customer service business functions.
4. Water Resource Recovery Facility (WRRF) – the disposal division within the WRRF currently has a vacant position for an Equipment Operator at the Jordan and Coleman Farms. The FY20 budget proposes to reclassify this position as a Maintenance Supervisor and reassign the current maintenance supervisor at the water plant to manage the effluent disposal on the Jordan and Coleman farms.
5. Stones River Water Plant (SRWTP)– by moving the Maintenance Supervisor from the water plant to the Jordan and Coleman farms, the FY20 personnel budget proposes to promote a current maintenance technician at the SRWTP to the level of Maintenance Supervisor. This promotion would not result in backfilling a new maintenance technician position for FY20. Staff will evaluate the need and determine if a new maintenance technician is warranted for the FY21 budget.

The rate funded capital budget is $6,797,741, which is an increase of $591,401 from the FY19 budget. MWRD's goal is a minimum of $5 million per year in rate-funded capital purchases. Rate funded capital purchases are budgeted to increase $591,401 and debt service expense to decrease by $437,397 as

compared to the FY19 budget. This offset indicates the Department's strong financial position and ability to pay in cash what would otherwise need to be purchased through debt service.

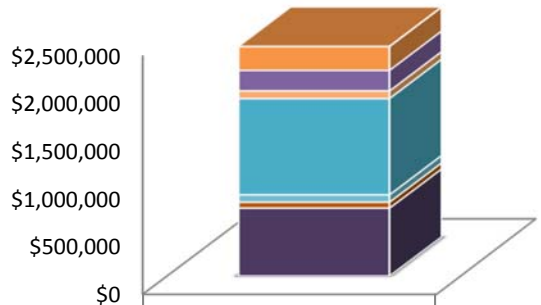
The Stormwater Fund budget is independent of the Department budget. It is funded from revenue based on a user fee of $3.25 per single family equivalent. The fund will be in its eleventh year in FY20. No change is recommended to the fee. The net revenue generated by the stormwater fee is budgeted at $3.0M with operation expenses budgeted at $1,942,147 and rate funded capital expenditures at $215,000.

FY20 Revenues, $3.0M



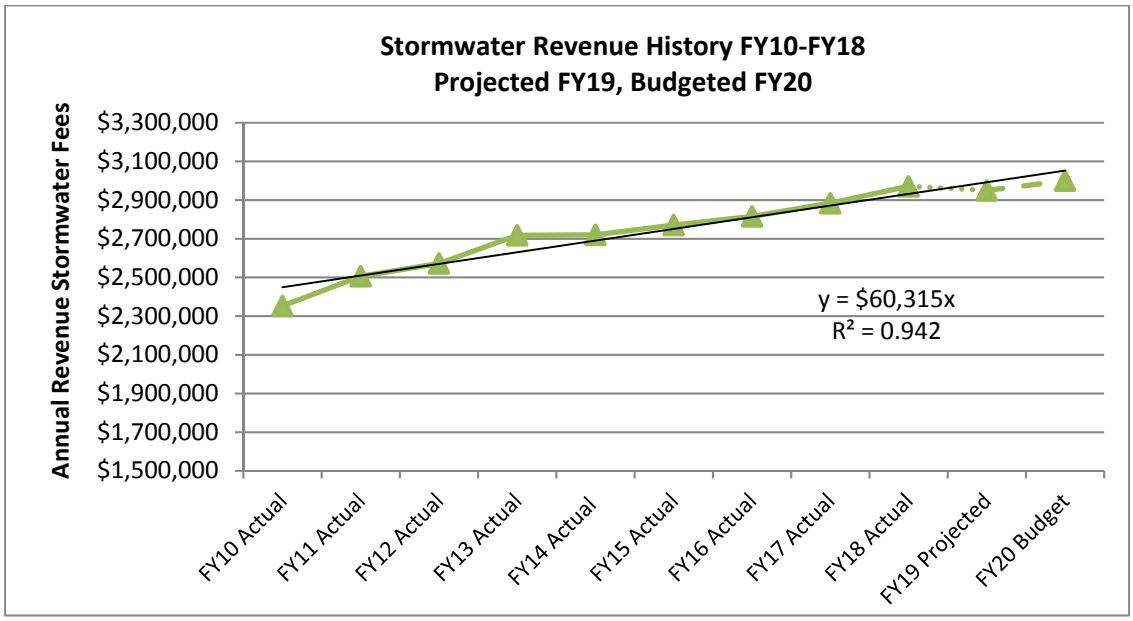
	FY20 Revenues
Stormwater Fees	$3,000,000

FY20 Expenses, $3.0M



	FY20 Expenses
Storm Sewer Repair & Replacement	$250,000
Rate-funded Capital Assets	$215,000
Outside Services	$79,851
Generald Fund Services	$1,007,645
Transportation	$77,613
Public Outreach /Education	$63,285
Labor & Benefits	$713,753

The rate funded stormwater capital expenditures include a rubber-tired loader and a new truck for the Streets Department. The anticipated excess funds above operating expenses and rate funded capital expenditures are $592,853. The stormwater fund has developed an extensive five (5) year Capital Improvements Plan, currently totaling $5,120,000 from FY19 through FY23. A five (5) year pro forma has been developed to demonstrate the banking of excess revenues to pay for these proposed capital improvements without incurring any debt. Financial policies for the stormwater enterprise fund were adopted by the Water Resources Board and City Council on May 21, 2013 and July 11, 2013, respectively. An amendment to these policies was approved in FY18 to allow the minimum working reserve balance to be lowered to no less than three (3) months of operating expenses, or $485,537 for FY20.



The chart above shows that the stormwater fund has grown by approximately $60,000 each year. That is equal to approximately 1,540 single family unit equivalents annually. The average impervious square footage is equal to 3,470 square feet per single family unit, which equates to the City adding approximately 122 acres of imperviousness annually. These imperviousness areas have been required to meet the City's permanent stormwater runoff treatment standards since 2008.

Staff has attached a PowerPoint that summarizes the proposed FY20 water resources budget and has also attached the detailed spreadsheet that itemizes all the Department's general ledger accounts.

Recommendation

1) Recommendation of FY20 Water Resources DRAFT Budget to City Council.
2) Recommendation of FY20 Stormwater DRAFT Budget to City Council.

Attachments

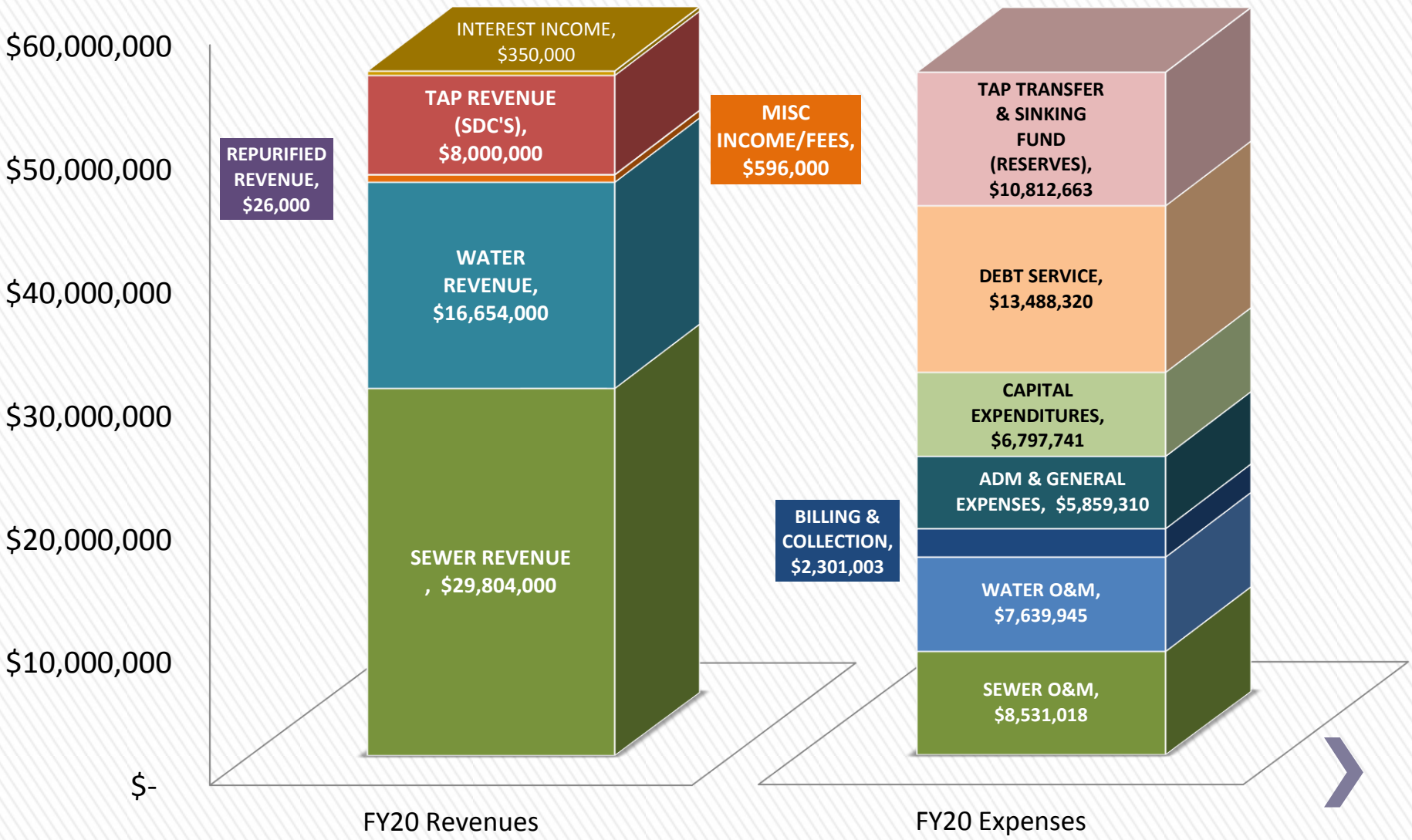
FY20 Water Resources and Stormwater Budget summary slides and detailed itemization

Murfreesboro Water Resources Department

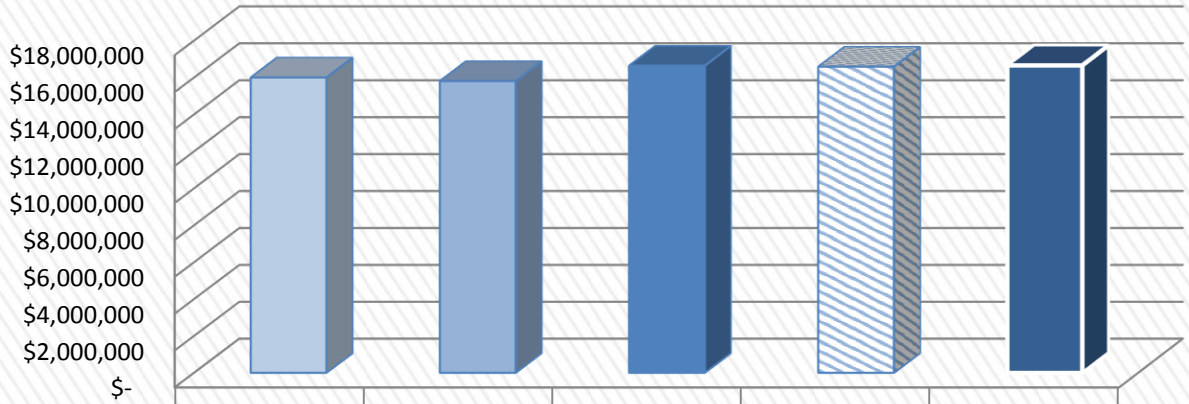
FY20 DRAFT BUDGET

April 30, 2018

Revenues Balance to Expenses, $55,430,000



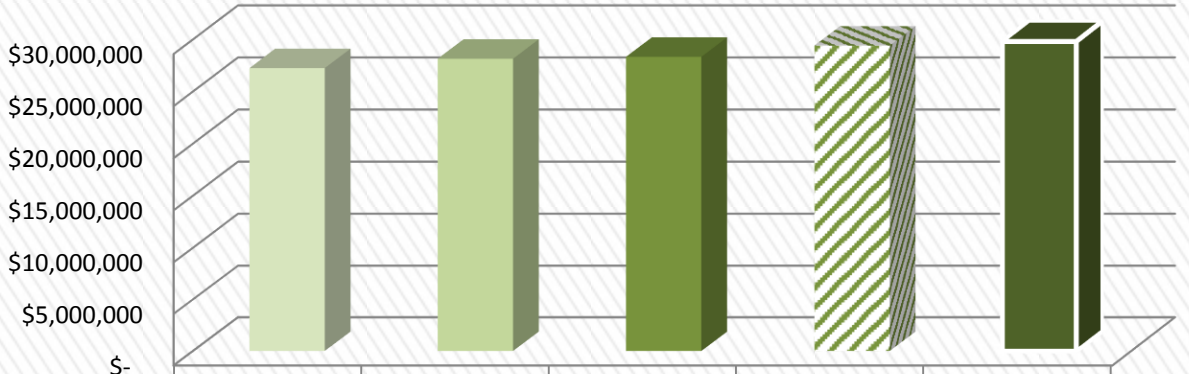
WATER, OPERATING REVENUE



	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
WATER, OPERATING REVENUE	$16,002,500	$15,811,282	$16,641,000	$16,587,404	$16,654,000

Flat from Last Years Budget; ↑ 0.4% from Projected

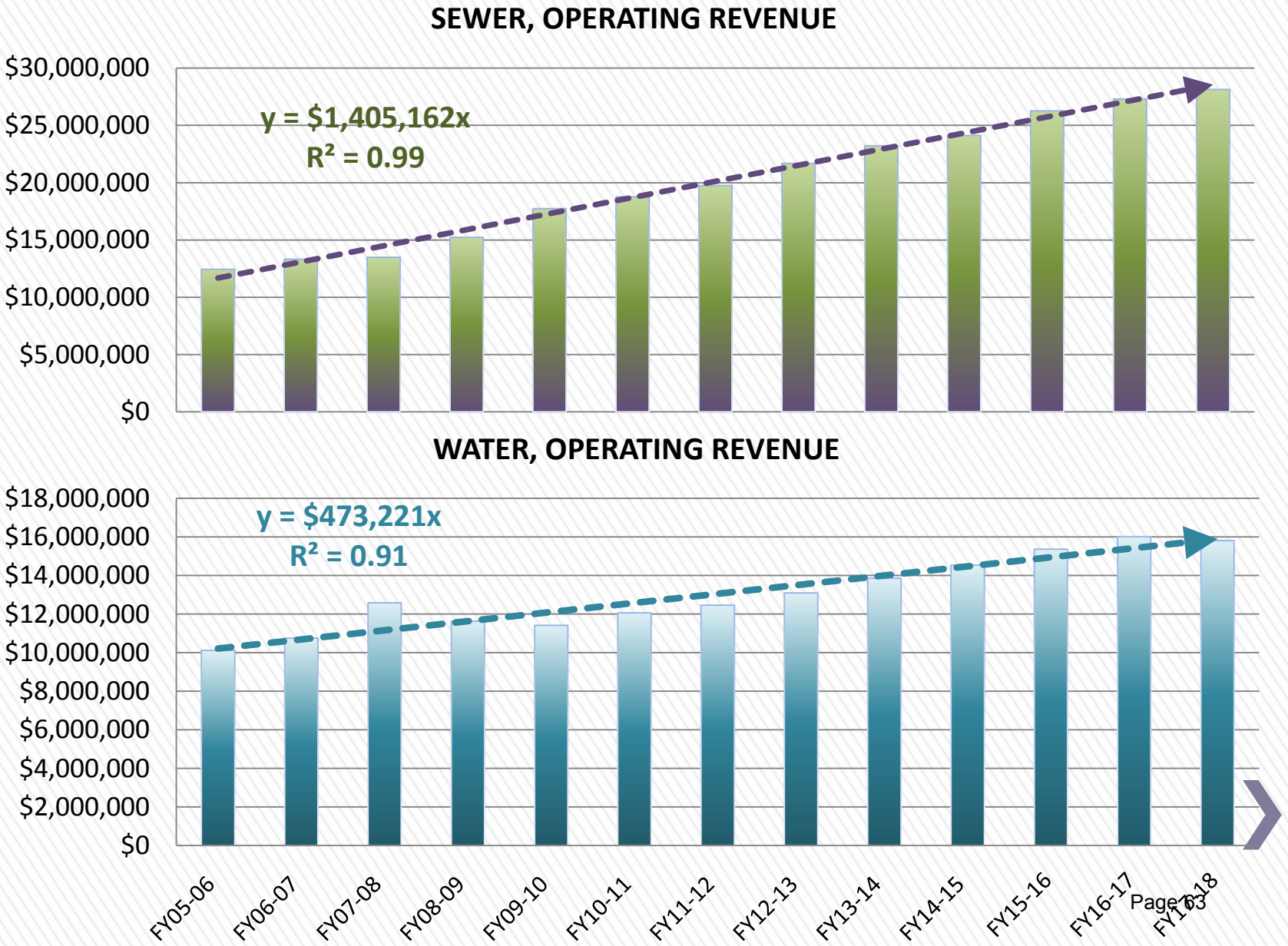
SEWER, OPERATING REVENUE



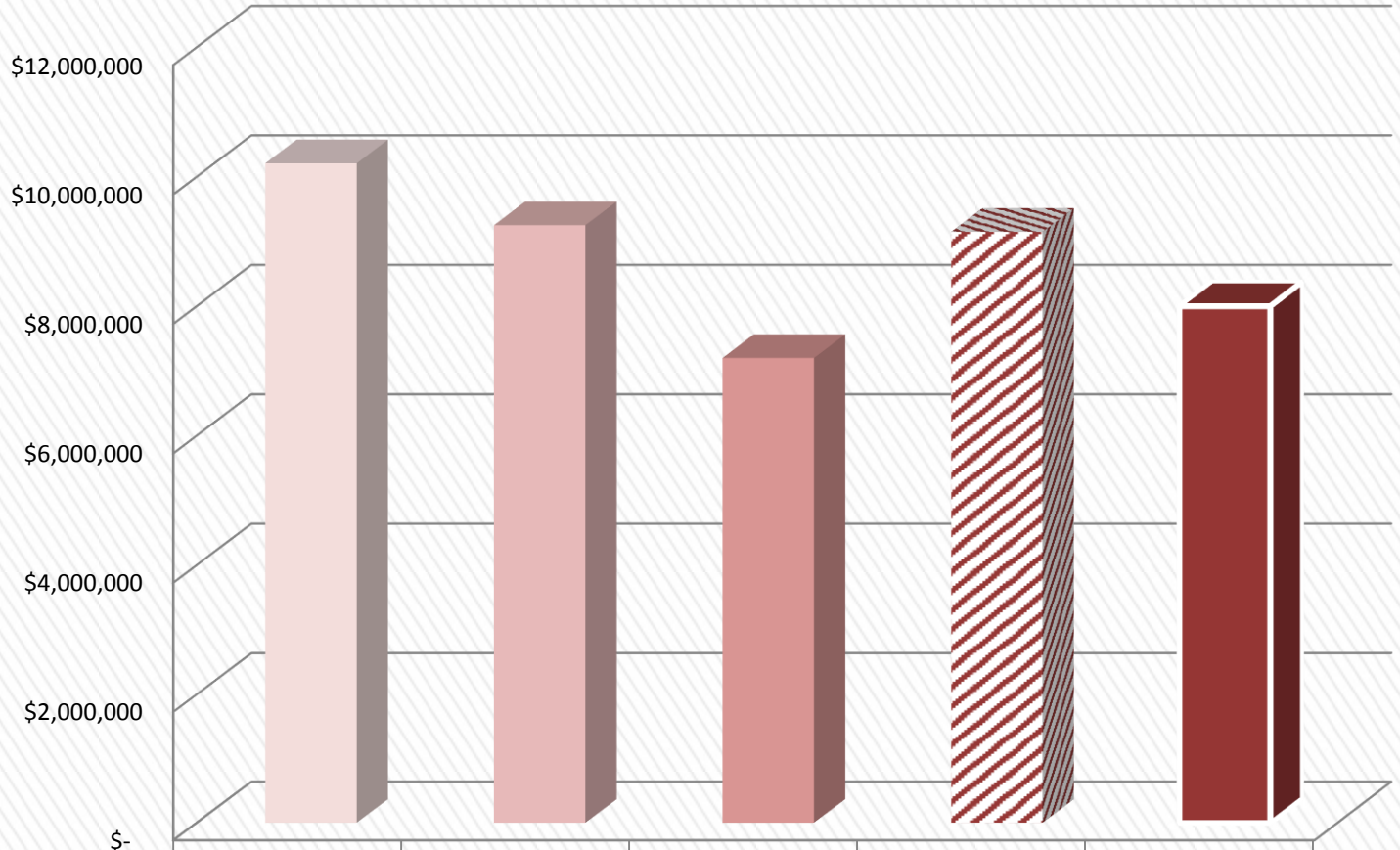
	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
SEWER, OPERATING REVENUE	$27,243,200	$28,147,375	$28,328,000	$29,406,564	$29,804,000

↑ 5.2% from Last Years Budget; ↑ 1.4% from Projected

Revenues Trends from FY06-FY18



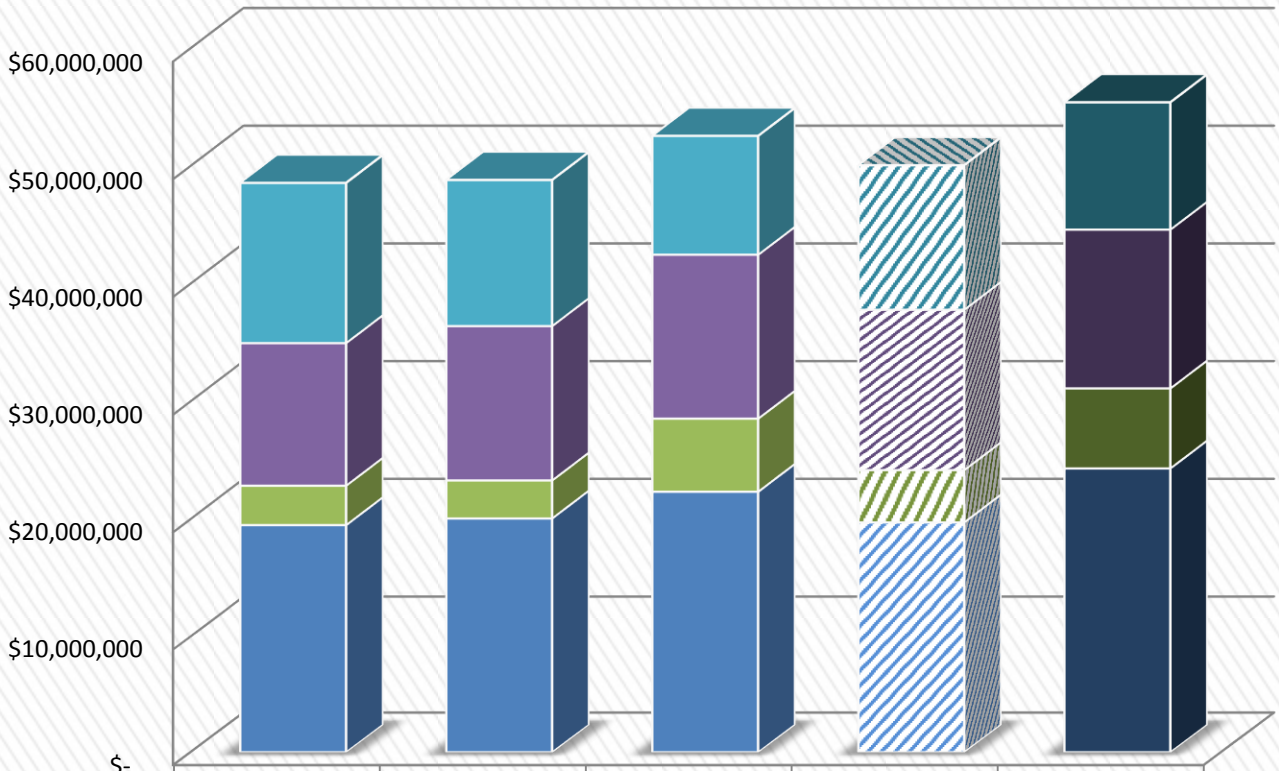
TAP REVENUE



	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
TAP REVENUE	$10,207,900	$9,251,048	$7,200,000	$9,150,000	$8,000,000

↑ 11.0% from Last Years Budget; ↓ 12.6% from Projected

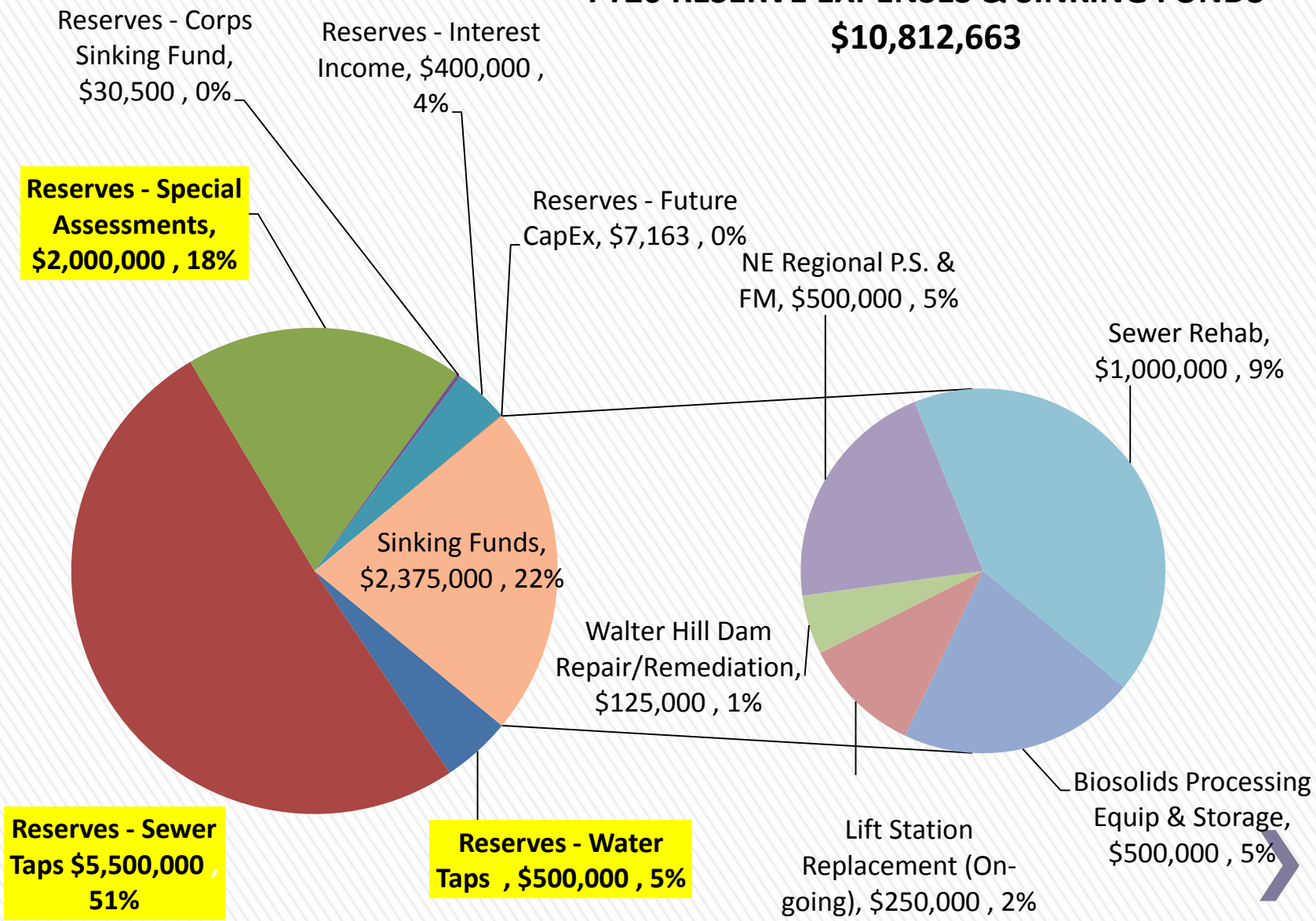
Total Expenses, $55,430,000



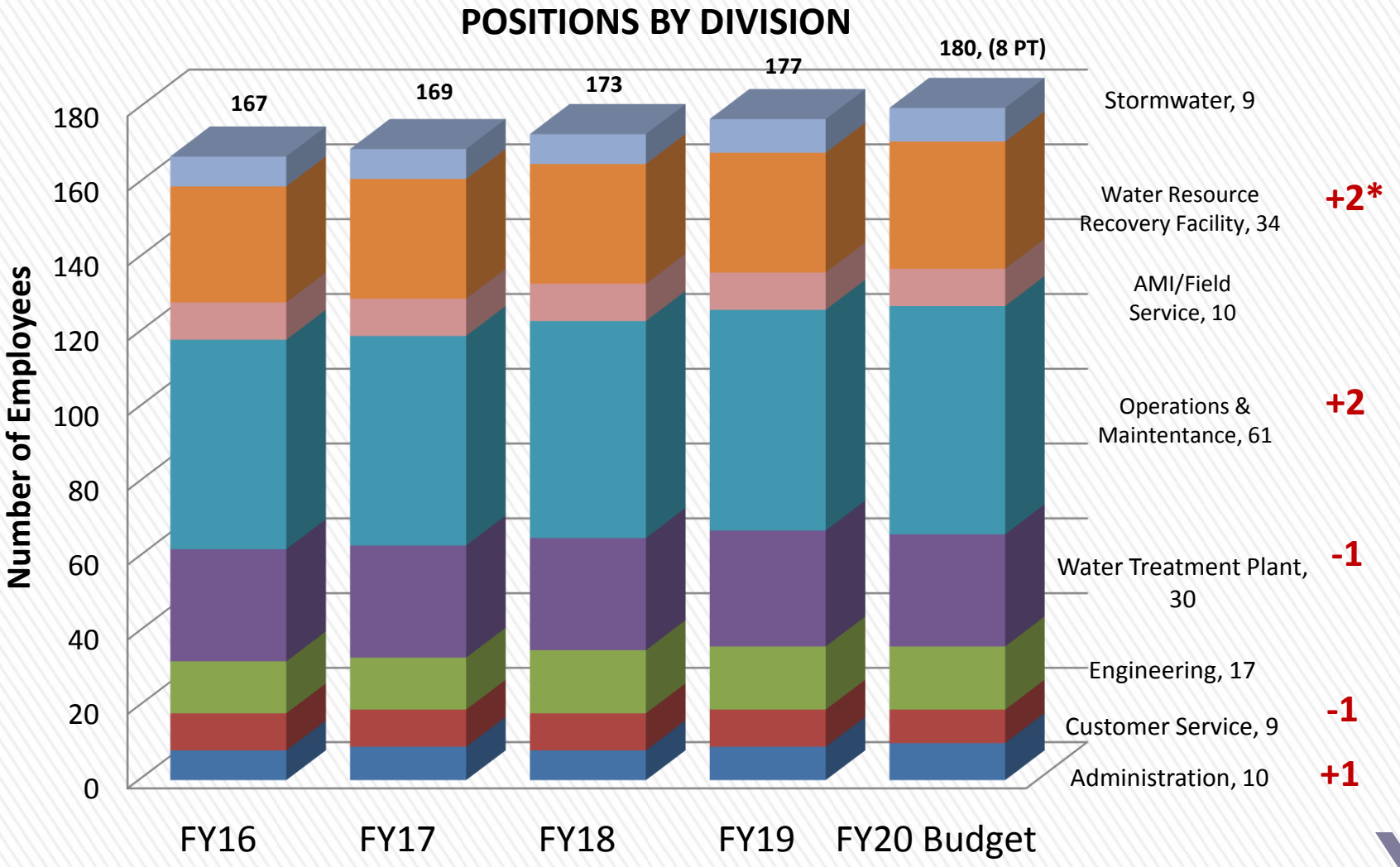
	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
TRANSFERS TO RESERVES	$13,604,909	$12,406,796	$10,094,201	$12,274,201	$10,812,663
DEBT SERVICE	$12,115,878	$13,119,136	$13,925,717	$13,624,527	$13,488,320
CAPITAL EXPENDITURES	$3,347,428	$3,227,386	$6,206,340	$4,439,100	$6,797,741
TOTAL OPERATING EXPENDITURES	$19,514,789	$20,080,429	$22,351,742	$19,746,085	$24,331,276

Debt Service ↓ 3.1%, Capital Expenditures and Operating Expenses ↑ 9-9.5% from Last Years Budget; Tap Revenue & Sinking Funds (Transfer to Reserves) ↑ 7.1%

FY20 RESERVE EXPENSES & SINKING FUNDS
$10,812,663

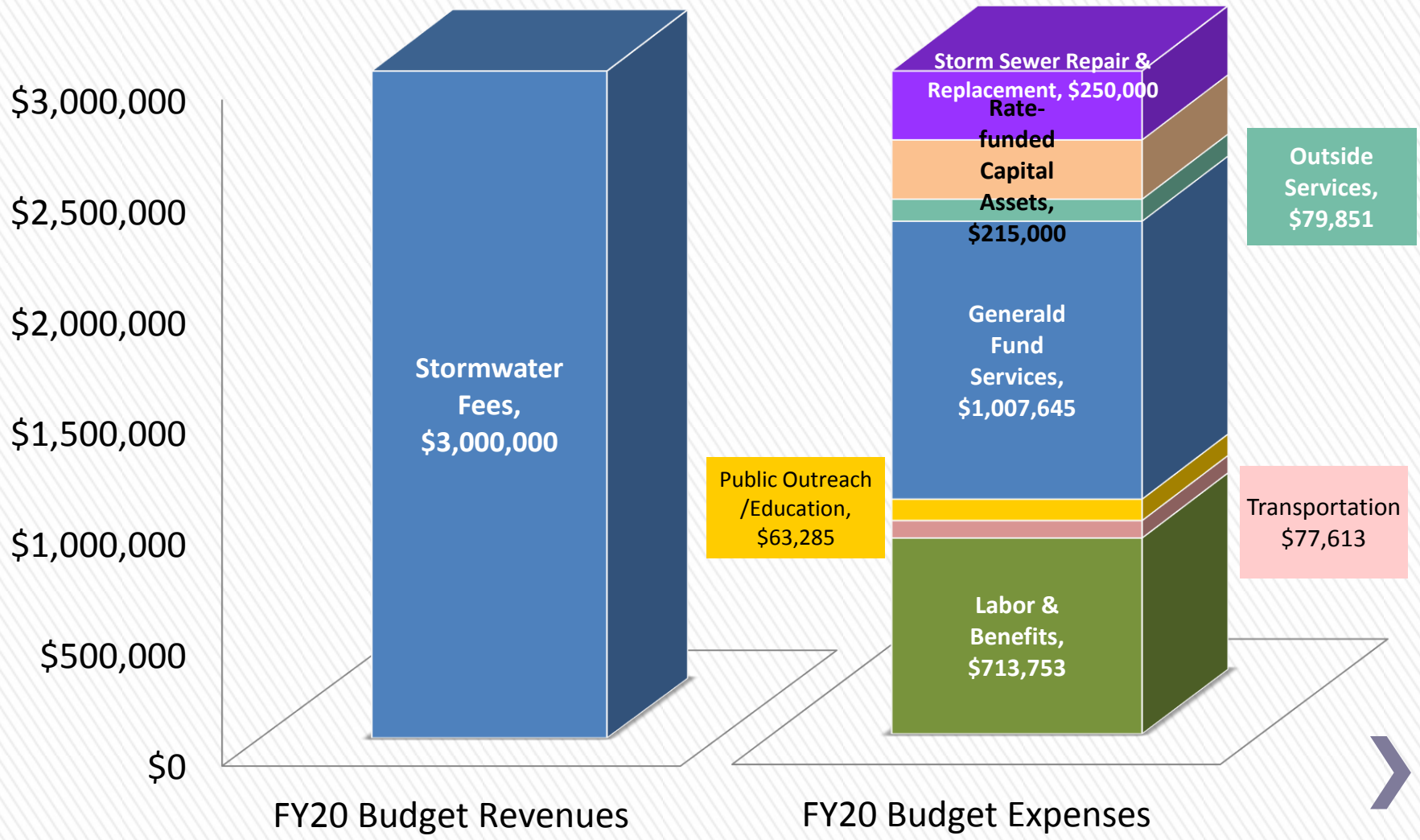


Personnel

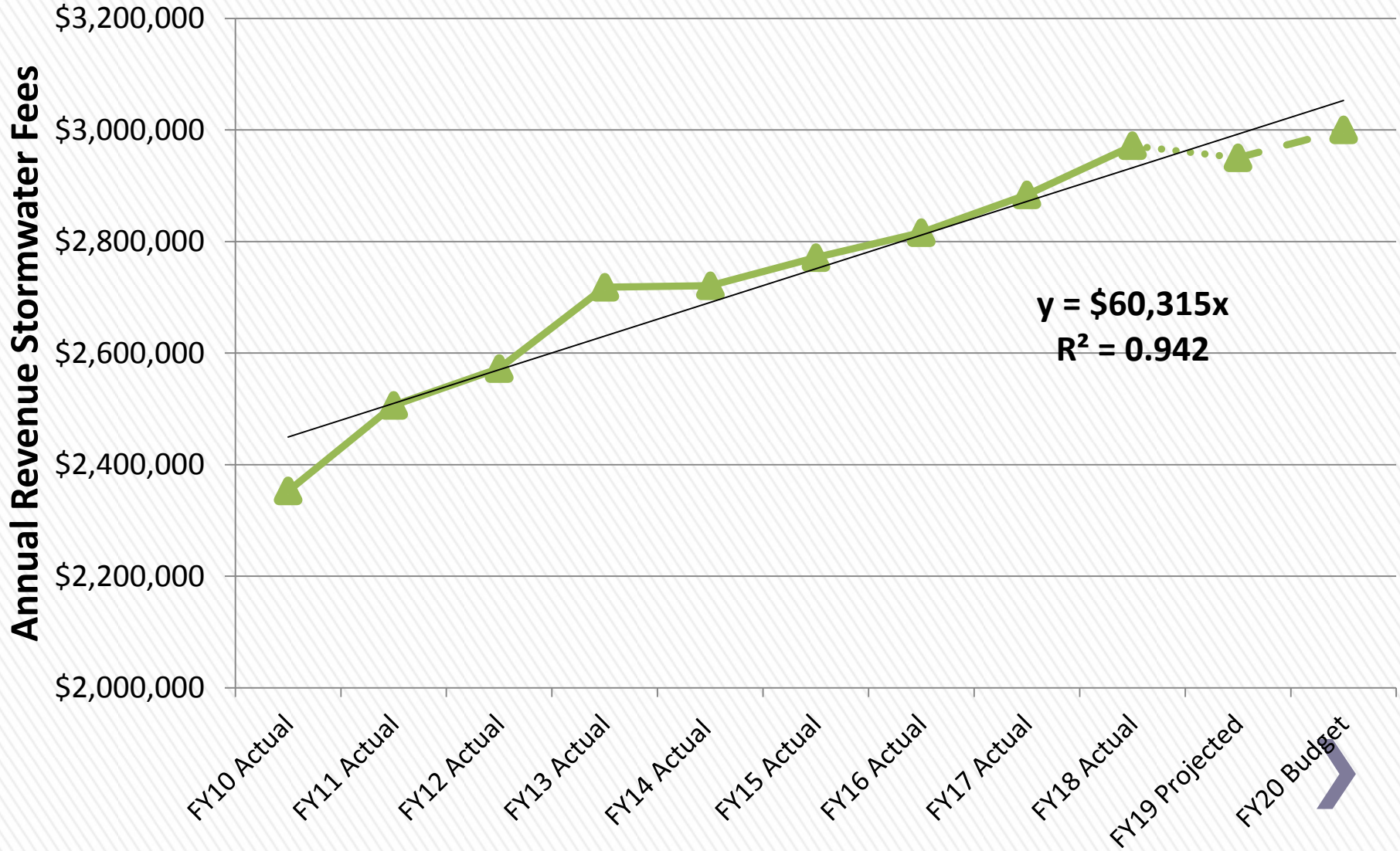


* **Note that in FY19 one full-time plant operator was reclassified into two part-time operators at the WRRF (Board approved in Feb 2019)**

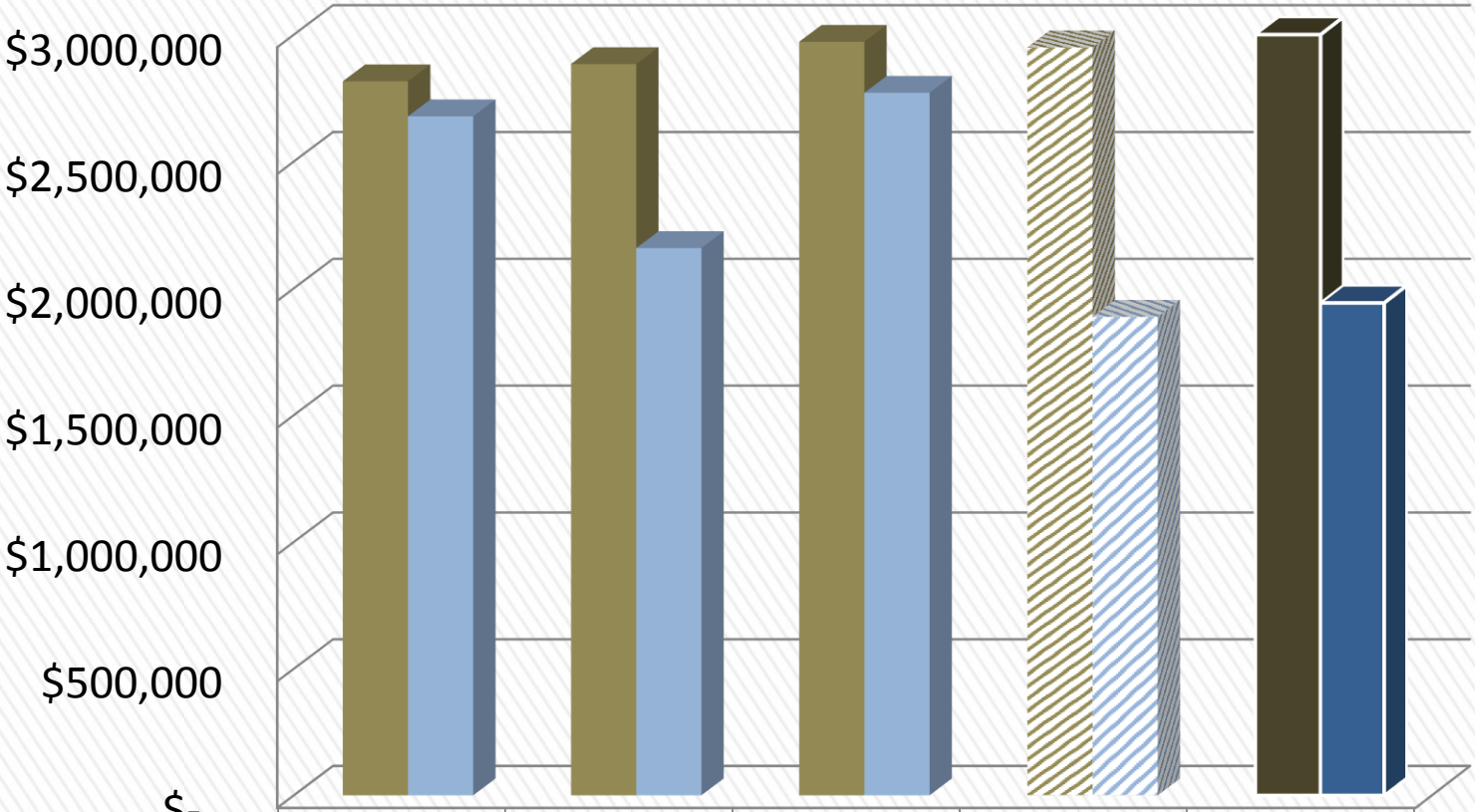
Stormwater Revenues Balance to Expenses, $3,000,000



Stormwater Revenue History FY10-FY18
Projected FY19, Budgeted FY20



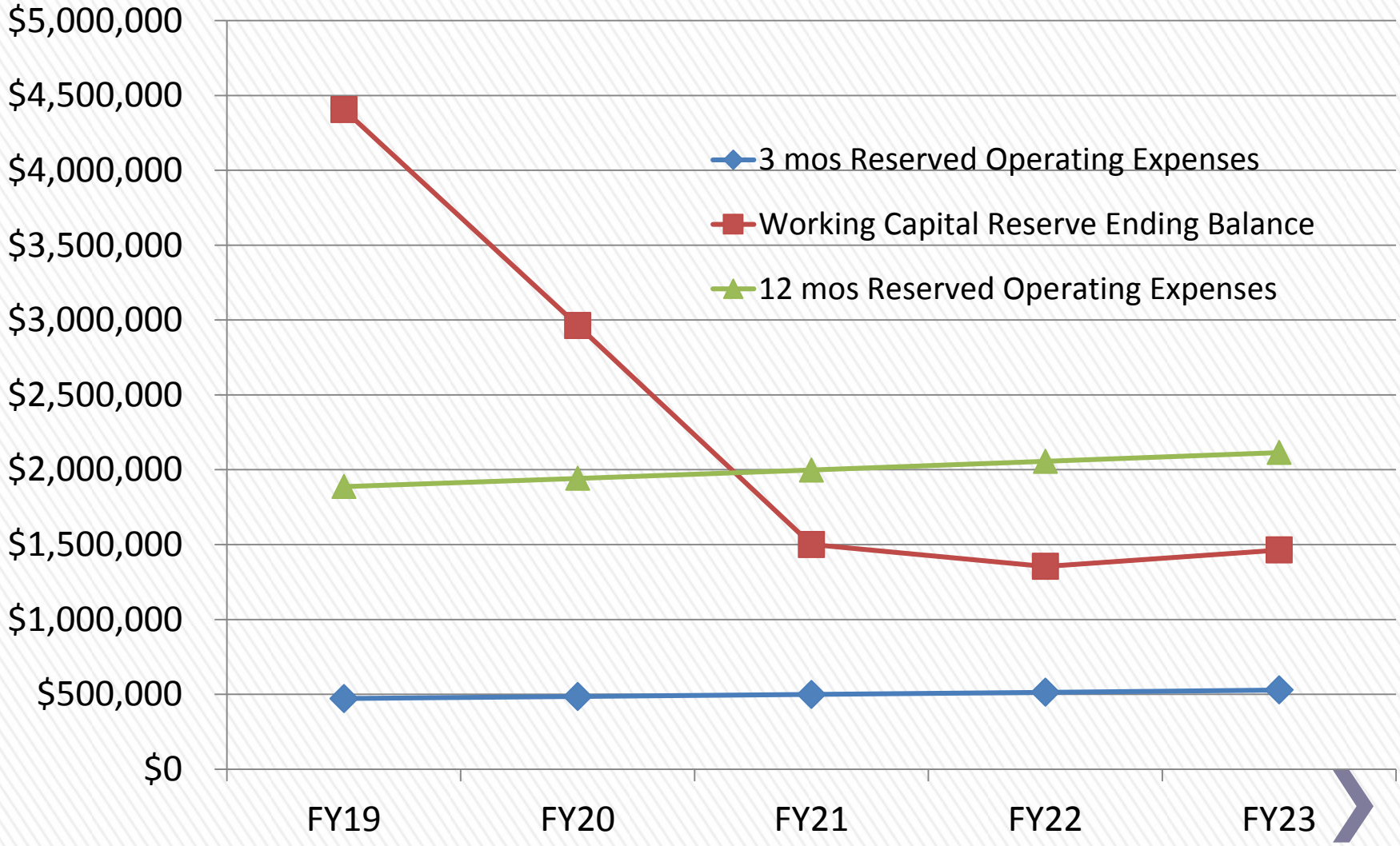
Stormwater Revenues & Expenses



	FY16 Actual	FY17 Actual	FY18 Actual	FY19 Projected	FY20 Budget
Operating Revenues	$2,815,808	$2,883,788	$2,971,693	$2,950,000	$3,000,000
O&M Expenses	$2,677,696	$2,158,435	$2,770,629	$1,887,764	1,942,147

Operating Expenses↑ 2.8% from Last Years Budget

Draft Projected Stormwater Working Capital Reserve Balance FY19-23



FY19 Accomplishments

- Completed long-term strategic planning document; Water Resource Integration Plan (WRIP)
- Implemented City-wide classification and compensation plan; creating a better recruitment and retention environment.
- Install Phase 1 of thermal dryer for Class A biosolids
- Continue to develop a new 2021 National Pollutant Discharge Elimination System (NPDES) permit rationale using exemplary Stones River bioassessment results.
- Completed FY 2018 AWWA Benchmarking Survey

FY20 Goals

- Finalize Northeast Regional Pump Station and Forcemain design and alignment
- Complete 201 Wastewater Facilities Plan to guide logical extension of sewer and areas best served by STEP systems.
- Develop wet weather treatment train plan for Water Resource Recovery Facility
- Complete Overall Creek PS Capacity Study
- Complete waste load allocation model for West Fork Stones River

MURFREESBORO WATER RESOURCES

Integrated õ Sustainable õ Affordable

QUESTIONS?

MURFREESBORO WATER RESOURCES DEPARTMENT
FY20 BUDGET

REVENUES	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
WATER, OPERATING REVENUE	$ 16,002,500	$ 15,811,282	$ 16,641,000	$ 16,587,404	$ 16,654,000
REPURIFIED, OPERATING REVENUE	$ 27,400	$ 27,241	$ 29,000	$ 28,583	$ 26,000
SEWER, OPERATING REVENUE	$ 27,243,200	$ 28,147,375	$ 28,328,000	$ 29,406,564	$ 29,804,000
OTHER INCOME AND EXPENSE	$ 571,054	$ 308,921	$ 310,000	$ 608,158	$ 596,000
TOTAL OPERATING REVENUES	**$ 43,844,154**	**$ 44,294,819**	**$ 45,308,000**	**$ 46,630,709**	**$ 47,080,000**
INTEREST INCOME OTHER INVEST.	$ 45,000	$ 54,996	$ 70,000	$ 300,000	$ 350,000
TAP REVENUE	$ 10,207,900	$ 9,251,048	$ 7,200,000	$ 9,150,000	$ 8,000,000
TOTAL REVENUES	**$ 54,097,054**	**$ 53,600,863**	**$ 52,578,000**	**$ 56,080,709**	**$ 55,430,000**
EXPENSES					
WATER, OPERATING & MAINTENANCE	$ 6,282,806	$ 6,123,401	$ 7,039,607	$ 6,708,448	$ 7,639,945
SEWER, OPERATING & MAINTENANCE	$ 6,869,620	$ 6,847,831	$ 8,292,446	$ 6,714,551	$ 8,531,018
CUSTOMER BILLING & COLLECTION	$ 1,840,209	$ 1,895,235	$ 2,191,899	$ 1,933,130	$ 2,301,003
ADM & GENERAL EXPENSES	$ 4,522,154	$ 5,213,961	$ 4,827,790	$ 4,389,956	$ 5,859,310
TOTAL OPERATING EXPENDITURES	**$ 19,514,789**	**$ 20,080,429**	**$ 22,351,742**	**$ 19,746,085**	**$ 24,331,276**
CAPITAL EXPENDITURES	$ 3,347,428	$ 3,227,386	$ 6,206,340	$ 4,439,100	$ 6,797,741
DEBT SERVICE	$ 12,115,878	$ 13,119,136	$ 13,925,717	$ 13,624,527	$ 13,488,320
TRANSFERS TO RESERVES	$ 13,604,909	$ 12,406,796	$ 10,094,201	$ 12,274,201	$ 10,812,663
TOTAL EXPENDITURES/RESERVES	**$ 48,583,004**	**$ 48,833,746**	**$ 52,578,000**	**$ 50,083,913**	**$ 55,430,000**
			$ -		$ -
DEBT COVERAGE RATIO (DCR)					
OPERATING REVENUES	$ 43,844,154	$ 44,294,819	$ 45,308,000	$ 46,630,709	$ 47,080,000
OPERATING EXPENSES	$ 19,514,789	$ 20,080,429	$ 22,351,742	$ 19,746,085	$ 24,331,276
FUNDS AVAILABLE FOR DEBT COVERAGE	$ 24,329,365	$ 24,214,390	$ 22,956,258	$ 26,884,624	$ 22,748,724
DEBT SERVICE	$ 12,115,878	$ 13,119,136	$ 13,925,717	$ 13,624,527	$ 13,488,320
DCR (Goal = >1.2)	**2.01**	**1.85**	**1.65**	**1.97**	**1.69**

MURFREESBORO WATER RESOURCES DEPARTMENT

FY20 BUDGET

Water Revenues			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
31701056	334000	State Grants		-	-	-	-
31701056	371100	Metered Water Sales	14,675,800	14,414,743	15,300,000	15,151,352	15,200,000
31701056	371101	Water Adjustments	(32,000)	(22,621)	(35,000)	(31,259)	(26,000)
31701056	371102	Private Fire Protection	91,400	111,037	100,000	111,754	112,000
31701056	371104	Service Initiation	217,700	220,990	215,000	233,654	230,000
31701056	371105	Late Fees	708,100	717,245	700,000	722,158	700,000
31701056	371106	Non-Payment	181,100	206,955	180,000	182,914	180,000
31701056	371107	Returned Payment Fees	12,200	9,720	11,000	8,794	8,000
31701056	371109	CCC	131,200	126,570	160,000	180,497	225,000
31701056	371111	Enernoc	15,500	24,314	8,000	27,351	25,000
31701056	371990	Miscellaneous	1,500	2,329	2,000	188	-
		Total Water Revenues	**16,002,500**	**15,811,282**	**16,641,000**	**16,587,404**	**16,654,000**

Repurified Revenue			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
31703056	373100	Repurified Revenue	**27,400**	**27,241**	**29,000**	**28,583**	**26,000**

Wastewater Revenue			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
31702056	371111	Enernoc	12,100	11,946	6,000	3,581	5,000
31702056	372100	Sewer Charges	22,700,000	27,814,643	28,000,000	28,759,699	29,500,000
31702056	372101	Sewer Adjustment	(101,000)	(115,617)	(60,000)	(92,247)	(140,000)
31702056	372102	Pool Adjustments		-		-	-
31702056	372103	Summer Sewer Credit	(5,000)	(699)	-	(869)	-
31702056	372105	O & M Fee	4,210,000	-	-	-	-
31702056	372106	Surveillance Fees	37,800	38,304	36,000	38,304	38,000
31702056	372107	Sampler	17,700	18,000	18,000	18,000	18,000
31702056	372108	BOD	253,500	265,937	250,000	476,584	275,000
31702056	372109	Amonia	62,900	49,252	36,000	125,250	60,000
31702056	372111	FOG Charges	-	-	-	-	-
31702056	372112	Septage Charges	55,200	65,610	42,000	76,834	45,000
31702056	372150	STEP System Revenues	-	-	-	1,429	3,000
		Total Sewer Revenues	**27,243,200**	**28,147,375**	**28,328,000**	**29,406,564**	**29,804,000**

MURFREESBORO WATER RESOURCES DEPARTMENT
FY20 BUDGET

Other Income (Expense)			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
31701916	361000	Interest Earnings	60,000	97,450	70,000	400,000	400,000
31701916	365001	Sale of Scrap Materials		(26,852)		(14,991)	-
31701916	371108	Water Miscellaneous Income	37,900	14,052	60,000	2,884	-
31701916	371960	Water Tap Fee Revenue	210,252	130,878	225,000	225,000	225,000
31701916	334000	Grant Income	300,454	-	-	-	-
31701916	372201	Water Inspection Fees		10,861		10,250	10,000
31701916	370005	Vending Machine Sales		24			-
		Cash (Over)/Short					
31701938	599951	Water Tap Expense	(210,252)	(130,878)	(225,000)	(225,000)	(225,000)
31702916	371108	Sewer Miscellaneous Income		68,863		34,362	30,000
31702916		Sewer Tap Fees	154,074	122,282	175,000	175,000	175,000
31702916	372202	Sewer Inspection Fees	172,700	138,882	180,000	171,103	150,000
31702916	372204	STEP Inspection Fees		2,250		1,714	3,000
		Sewer Tap Expense	(154,074)	(122,282)	(175,000)	(175,000)	(175,000)
31703916	372203	Reuse Inspection Fees		3,391		2,835	3,000
		Total Other Income (Expense)	**571,054**	**308,921**	**310,000**	**608,158**	**596,000**

Interest Earnings - Restricted			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
31701916	**361001**	**Interest Earnings - Restricted**	**45,000**	**54,996**	**70,000**	**300,000**	**350,000**

Tap Transfer to Reserves			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
		Water Taps	222,200	597,480	200,000	650,000	500,000
		Sewer Taps	9,985,700	8,653,568	7,000,000	8,500,000	7,500,000
		Total Tap Revenue	**10,207,900**	**9,251,048**	**7,200,000**	**9,150,000**	**8,000,000**

MURFREESBORO WATER RESOURCES DEPARTMENT

FY20 BUDGET

ACCOUNT DESCRIPTION	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
Water Division Operating Expenses					
Water Source Expenses	180,989	141,854	236,000	189,652	208,000
Water Treatment Operations	3,958,605	3,778,888	4,068,469	3,869,682	4,259,169
Water Treatment Maint	-	-	-	-	-
Water Storage	32,830	49,043	60,000	58,723	67,300
Water Distribution Operations	1,121,702	1,272,223	1,568,587	1,445,366	1,776,098
Water Distribution Maintenance	-	-	-	-	-
Cross Connection	233,192	223,913	317,407	266,590	351,959
Water Plant Administration	755,488	657,480	789,144	878,435	977,419
	6,282,806	6,123,401	7,039,607	6,708,448	7,639,945
Sewer Division Operating Expenses					
Sewer Collections Operations	1,301,361	1,487,676	1,944,256	1,628,175	2,213,855
Sewer Collections Maintenance	3,727	-	-	-	-
Sewer Rehabilitation	133,262	154,363	133,500	126,892	158,500
Sewer Pump Stations	672,759	732,736	731,289	662,469	779,924
Sewer Ind Surv Personnel	284,877	277,540	298,364	261,641	320,878
Sewer Private Laterals	3,316	1,688	7,500	5,256	-
House Services	62,372	8,721	12,000	7,446	-
Sewer Treatment Operations	2,741,713	2,464,442	3,144,383	2,416,184	2,953,269
Sewer Disposal	601,360	579,660	695,628	513,250	727,407
Sewer Plant Administration	798,159	866,261	943,318	886,657	916,888
Repurified System Expenses	266,714	274,745	382,208	206,582	460,297
	6,869,620	6,847,831	8,292,446	6,714,551	8,531,018
Meter Field Services	653,773	647,043	793,989	706,436	919,329
Customer Service	1,186,436	1,248,193	1,397,910	1,226,694	1,381,674
	1,840,209	1,895,235	2,191,899	1,933,130	2,301,003
Engineering/Admin					
O&M Administration	838,159	970,792	536,926	445,617	573,985
Engineering Department	694,047	781,205	1,066,479	785,613	1,159,396
Field Inspectors Department	327,478	356,328	422,305	342,683	451,473
Water & Sewer Administration Dept	2,662,470	3,105,637	2,802,080	2,816,043	3,674,456
	4,522,154	5,213,961	4,827,790	4,389,956	5,859,310

MURFREESBORO WATER RESOURCES DEPARTMENT

FY20 BUDGET

CAPITAL EXPENDITURES			FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
		METERS/ERTs/M-Logs	4,587	34,389	75,000	51,584	75,000
		WATER TAPS	184,024	106,046	100,000	116,216	100,000
		SEWER TAPS	154,074	122,238	100,000	115,231	100,000
		REPURFIED TAPS	26,228	12,078	20,000	18,072	20,000
		FIRE HYDRANTS	13,358	18,739	25,000	19,558	25,000
		WATER LINES	273,439	224,934	300,000	250,000	300,000
		SEWER LINES	305,282	22,375	300,000	250,000	300,000
		SEWER REHAB CONSTRUCTION	1,000,000	1,000,000	-		
	60000.340	CIP LABOR	325,000	400,000	300,000	350,000	300,000
			2,285,992	**1,940,799**	**1,220,000**	**1,170,661**	**1,220,000**
		STEP SYSTEM					
3102	180840	STEP Equipment	-	-	-	12,842	-
			-	-	-	**12,842**	-
		WATER					
		Water Lines, Taps, Hydrants		-	-	-	-
3102	181140	Structures & Improvements	42,526	44,561	285,000	293,192	350,000
3102	181315	Land Improvements	-	40,000	87,000	87,000	190,000
3102	181440	Lab Equipment	-	6,725	14,350	15,700	39,000
3102	181650	Meters / Meter Vaults	-	-	-	4,100	-
3102	181780	Office Furniture & Equipment	-	6,946	21,200	31,320	86,500
3102	181781	Computer Equipment	-	64,263	52,500	76,725	90,500
3102	181782	Software	-	23,850	8,000	30,800	42,600
3102	181790	Vehicles	631,288	64,548	169,000	174,371	-
3102	181840	Equipment & Large Tools	228,017	277,829	1,251,000	887,583	949,150
3102	181870	Communication Equipment					7,200
			901,831	**528,722**	**1,888,050**	**1,600,792**	**1,754,950**
		SEWER					
		Sewer Lines, Taps	-	-	-	-	-
3102	182140	Structures & Improvements	-	-	129,000	25,000	160,000
3102	182315	Land Improvements	-	-	3,000	636	10,000
3102	182440	Lab Equipment	-	12,669	32,000	10,000	67,900
3102	182780	Office Furniture & Equipment	-		7,500	7,752	12,000
3102	182781	Computer Equipment	-	17,744	71,900	15,565	194,000
3102	182782	Software	-	-	-	-	39,000
3102	182790	Vehicles	-	-	113,000	110,000	220,500
3102	182840	Equipment & Large Tools	36,857	56,561	1,389,200	928,343	1,844,500
3102	182870	Communication Equipment	-	-	-	-	1,000
			36,857	**86,975**	**1,745,600**	**1,097,296**	**2,548,900**
		REUSE					
		Reuse Taps	-	-	-	-	-
3102	183781	Computer Equipment	-	-	-	-	-
3102	183840	Equipment & Large Tools	-	-	-	-	-
			-	-	-	-	-
		O&M					
3102	184140	Structures & Improvements	-	16,741	61,000	-	18,500
3102	184315	Land Improvements	-	-	18,000	-	30,000
3102	184780	Office Furniture & Equipment	-	-	23,500	3,534	18,500
3102	184781	Computer Equipment	-	-	13,500	5,031	21,500
3102	184782	Software	-	-	600	-	-
3102	184790	Vehicles	-	384,896	362,650	163,625	260,000
3102	184840	Equipment & Large Tools	106,492	120,252	372,467	238,308	347,341
			106,492	**521,889**	**851,717**	**410,499**	**695,841**
		AMI					
3102	185140	Structures & Improvements	-	-	905	905	-
3102	185780	Office Furniture & Equipment	-	-	-	4,345	2,000

3102	185781	Computer Equipment	-	-	1,500	1,006	8,000
3102	185790	Vehicles	-	30,441	35,000	-	35,000
3102	185840	Equipment & Large Tools	-	70,553	27,283	-	52,500
3102	185870	Communication Equipment	-	-	4,000	-	-
			-	**100,994**	**68,688**	**6,256**	**97,500**
		CUSTOMER SERVICE					
3102	186780	Office Furniture & Equipment	-	-	-	519	6,000
3102	186781	Computer Equipment	-	-	9,000	4,841	297,800
3102	186782	Software	-	-	300,000	18,000	25,000
			-	-	**309,000**	**23,360**	**328,800**
		ENGINEERING					
3102	187140	Structures & Improvements	-	-	6,670	-	20,000
3102	187780	Office Furniture & Equipment	-	5,450	12,015	-	6,000
3102	187781	Computer Equipment	-	-	8,100	4,025	9,350
3102	187790	Vehicles	-	-	30,000	-	-
3102	187840	Equipment & Large Tools	-	42,557	5,700	-	12,400
			-	**48,006**	**62,485**	**4,025**	**47,750**
		INSPECTORS					
3102	188780	Office Furniture & Equipment	-	-	-	4,345	-
3102	188781	Computer Equipment	-	-	-	1,006	-
3102	188790	Vehicles	-	-	-	-	31,000
			-	-	-	**5,351**	**31,000**
		ADMIN					
3102	189780	Office Furniture & Equipment	-	-	5,000	507	5,000
3102	189781	Computer Equipment	16,256		3,500	2,511	68,000
3102	189782	Software	-	-	2,300	-	-
3102	189870	Communication Equipment	-	-	50,000	105,000	-
			16,256	-	**60,800**	**108,019**	**73,000**
			3,347,428	**3,227,386**	**6,206,340**	**4,439,100**	**6,797,741**

MURFREESBORO WATER RESOURCES DEPARTMENT

FY20 BUDGET

DEBT SERVICE	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
BOND DEBT SERVICE	36,000	-	-	-	-
INTEREST EXP TMBF 2003	48,352	55,803	75,000	55,762	60,000
INTEREST EXP TML 2006	370,379	457,095	650,000	492,446	520,000
INTEREST EXP 2009 REFUND	355,250	242,250	123,750	123,750	-
INTEREST EXP 2013 REFUNDING	238,663	191,792	145,279	145,279	97,464
INTEREST EXP 2016 REFUNDING	641,061	662,000	657,000	657,000	652,000
INTEREST SRF 2012-303 PS	72,233	68,292	64,836	64,836	61,344
INTEREST SRF 2013-317 FM	32,940	31,248	29,544	29,544	27,828
INTEREST SRF 2012-306 HW	181,781	118,596	112,584	112,584	106,524
INTEREST SRF 2016 4D #1	52,860	50,412	47,904	47,904	45,384
INTEREST SRF 2016 4D #2	205,237	415,652	426,228	396,222	370,188
PRINCIPAL TML 2003	456,000	471,000	486,000	486,000	502,000
PRINCIPAL TML SERIES 2006	1,963,000	2,051,000	2,144,000	2,144,000	2,240,000
REVENUE AND TAX BOND 2009	2,260,000	2,370,000	2,475,000	2,475,000	-
PRINCIPAL 2013 REFUNDING	3,555,000	3,600,000	3,650,000	3,650,000	3,695,000
PRINCIPAL 2016 REFUNDING	100,000	100,000	100,000	100,000	2,470,000
PRINCIPAL SRF 2012-303 PUMP ST	342,510	340,932	344,112	344,112	347,328
PRINCIPAL SRF 2013-317 FORCE MN	166,992	168,552	170,124	170,124	171,708
PRINCIPAL SRF 2012-306 HEADWORKS	860,188	591,972	597,504	597,504	603,084
PRINCIPAL SRF 2016 4D #1	177,432	179,748	182,100	182,100	184,476
PRINCIPAL SRF 2016 4D #2	-	952,792	1,444,752	1,350,360	1,333,992
	-				
DEBT SERVICE	**12,115,878**	**13,119,136**	**13,925,717**	**13,624,527**	**13,488,320**

MURFREESBORO WATER RESOURCES DEPARTMENT

FY20 BUDGET

RESERVES	FY17 ACTUAL	FY18 ACTUAL	FY19 BUDGET	FY19 PROJECTION	FY20 BUDGET
Reserves - Water Taps	222,271	597,480	200,000	650,000	500,000
Reserves - Sewer Taps	7,556,537	6,489,264	6,000,000	6,500,000	5,500,000
Reserves - Special Assessments	2,429,163	2,164,304	1,000,000	2,000,000	2,000,000
Reserves - Corps Sinking Fund	30,500	30,500	30,500	30,500	30,500
Reserves - Interest Income	45,000	55,000	70,000	300,000	400,000
Reserves - Future CapEx	1,500,000	1,000,000	418,701	418,701	7,163
Reserves - Future Debt	335,000	335,000	-	-	-
Biosolids Processing Equip & Storage	400,000	500,000	500,000	500,000	500,000
Lift Station Replacement (On-going)	286,438	250,000	250,000	250,000	250,000
Walter Hill Dam Repair/Remediation	300,000	125,000	125,000	125,000	125,000
NE Regional P.S. & FM	500,000	860,248	500,000	500,000	500,000
Sewer Rehab			1,000,000	1,000,000	1,000,000
TOTAL SINKING FUNDS	1,486,438	1,735,248	2,375,000	2,375,000	2,375,000
	13,604,909	**12,406,796**	**10,094,201**	**12,274,201**	**10,812,663**

WATER RESOURCES

DASHBOARD PERFORMANCE

March 2019

MWRD FY2019-2023 CIP

NO.	PROJECT	2018-2019 2018	2019-2020 2019 Issue	2020-2021 2020 Issue	2021-2022 2021 Issue	2022-2023 2022 Issue	TOTAL
	Construction- Northeast Regional PS & Force Main						$0
	Construction- Biosolids Processing Equipment						$0
	TOTAL Capital Improvements funded from **Debt Service**	$0	$0	$0	$0	$0	$0

NO.	PROJECT	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	2021-2022 2022 FY	2022-2023 2023 FY	TOTAL
	Sewer rehab- Account 335	$1,400,000	$1,250,000	$1,250,000	$1,250,000	$1,250,000	$6,400,000
	Meters, Water/Sewer Taps, Hydrants - 280, 290, 300, 310	$435,000	$435,000	$435,000	$435,000	$435,000	$2,175,000
	Water lines- Account 320	$350,000	$350,000	$350,000	$350,000	$350,000	$1,750,000
	Sewer Lines - Account 330	$350,000	$350,000	$350,000	$350,000	$350,000	$1,750,000
	Biolsolids Processing Equip & Storage Sinking Fund	$500,000	$500,000	$500,000	$500,000	$500,000	$2,500,000
	Walter Hill Dam Repair/Remediation Sinking Fund	$125,000	$125,000	$125,000	$125,000	$125,000	$625,000
	Lift Station Replacement Sinking Fund	$250,000	$250,000	$250,000	$250,000	$250,000	$1,250,000
	NE Regional PS & FM Sinking Fund	$500,000	$500,000	$500,000	$500,000	$500,000	$2,500,000
	GAC Replacement	$110,000	$110,000	$110,000	$110,000	$110,000	$550,000
	Vehicle and Equipment Replacement	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$7,500,000
	TOTAL Capital Improvements funded from **Rates**	$5,520,000	$5,370,000	$5,370,000	$5,370,000	$5,370,000	**$27,000,000**

NO.	PROJECT	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	2021-2022 2022 FY	2022-2023 2023 FY	TOTAL
	W&S CAPITAL IMPROVEMENT PROJECTS						
	Misc FY19 Working Reserve Commitments	$1,800,000					$1,800,000
	Biolsolids Processing Equipment & Storage Addition	$1,000,000	$1,000,000	$8,500,000	$5,500,000		$16,000,000
	Overall Creek Pump Station Upgrade	$350,000	$1,500,000	$3,500,000	$3,500,000		$8,850,000
	NE Regional Engineering Design	$500,000	$1,500,000	$250,000	$250,000	$250,000	$2,750,000
	NE Regional P.S. & Force Main		$500,000	$2,500,000	$10,000,000	$7,500,000	$20,500,000
	Cherry Lane / Sazerac Sanitary Sewer		$1,000,000	$1,500,000			$2,500,000
	SR840 Interchange Area Sanitary Sewer	$200,000	$1,100,000	$1,100,000			$2,400,000
	Hwy96 Park Property Area Sewer		$300,000	$2,000,000	$2,000,000		$4,300,000
	MWRRF Wet Weather Treatment Train Impr		$50,000		$2,500,000	$2,500,000	$5,050,000
	Lift Station Rehab/Replacement (#9) Ransom Dr.	$935,000					$935,000
	Mill Street Painting, Halls Hill and Tiger Hill Tank Repairs		$2,550,000				$2,550,000
	WTP Membrane Replacement			$650,000			$650,000
	Direct Potable Reuse Demonstration			$150,000	$350,000		$500,000
	Stones River Water Qual Sampling / NPDES Permitting	$500,000	$150,000	$150,000	$150,000	$150,000	$1,100,000
	Subtotal CAPITAL PROJECTS	$5,285,000	$9,650,000	$20,300,000	$24,250,000	$10,400,000	$69,885,000
	TRANSPORTATION (Water/Sewer Imp.)						
	Bradyville Pike			$1,500,000	$1,500,000	$500,000	$3,500,000
	Jones Blvd Widening		$500,000	$500,000			$1,000,000
	Cherry Lane Repurified Main Extension (14,600 LF)		$825,000	$1,000,000			$1,825,000
	Cherry Lane Sanitary Sewer Construction	$75,000	$500,000	$1,500,000			$2,075,000
	SR 99 Widening- Old Fort to Cason Lane		$500,000	$500,000	$500,000		$1,500,000
	St. Clair St.		$500,000				$500,000
	John Rice Blvd & Rucker Lane		$200,000				$200,000
	Maney Avenue Reconstruction - Phase 2		$250,000	$250,000			$500,000
	Wilkinson Pike Reconstruction (MCP to TL)		$650,000	$650,000			$1,300,000
	Subtotal TRANSPORTATION PROJECTS	$75,000	$3,925,000	$5,900,000	$2,000,000	$500,000	$12,400,000
	REHABILITATION						
	Sewer Rehabiliation - Maintenance Contract	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$5,000,000
	INFORMATION TECHNOLOGY PROJECTS						
	IT/Computer Systems Hardware Upgrades	$50,000	$100,000	$100,000	$100,000	$100,000	$450,000
	Electronic Content Management (Scanning/Imaging)		$150,000	$150,000	$150,000		$450,000
	IT Design Services & Consulting	$100,000	$100,000	$100,000	$50,000		$350,000
	Comp Maintenance Management System (CMMS)		$400,000	$600,000			$1,000,000
	Subtotal INFORMATION TECHNOLOGY PROJECTS	$150,000	$750,000	$950,000	$300,000	$100,000	$2,250,000
	TOTAL Projects from **Working Capital Reserves**	**$6,510,000**	**$15,325,000**	**$28,150,000**	**$27,550,000**	**$12,000,000**	**$89,535,000**

PROJECTED RESERVE FUND BALANCE REVENUE (TAPS)	$7,200,000	$7,000,000	$7,000,000	$7,000,000	$7,000,000
SINKING FUND DEPOSITS TO RESERVES FROM RATES	$2,775,000	$2,625,000	$2,625,000	$2,625,000	$2,625,000
SECURED MIN. BALANCE FOR WORKING CAPITAL RESERVES	$22,351,742	$22,798,777	$23,254,752	$23,719,847	$24,194,244
PROJECTED WORKING CAPITAL RESERVE BALANCE	$75,548,239	$69,848,239	$51,323,239	$33,398,239	$31,023,239
FUNDS ABOVE SECURED MINIMUM BALANCE	**$53,196,497**	**$47,049,462**	**$28,068,487**	**$9,678,392**	**$6,828,995**

Prepared by: DGore

4/25/2019

***Preliminary Draft* 5-YR CAPITAL IMPROVEMENTS PLAN (CIP)**
STORMWATER UTILITY FUND, FY19-23

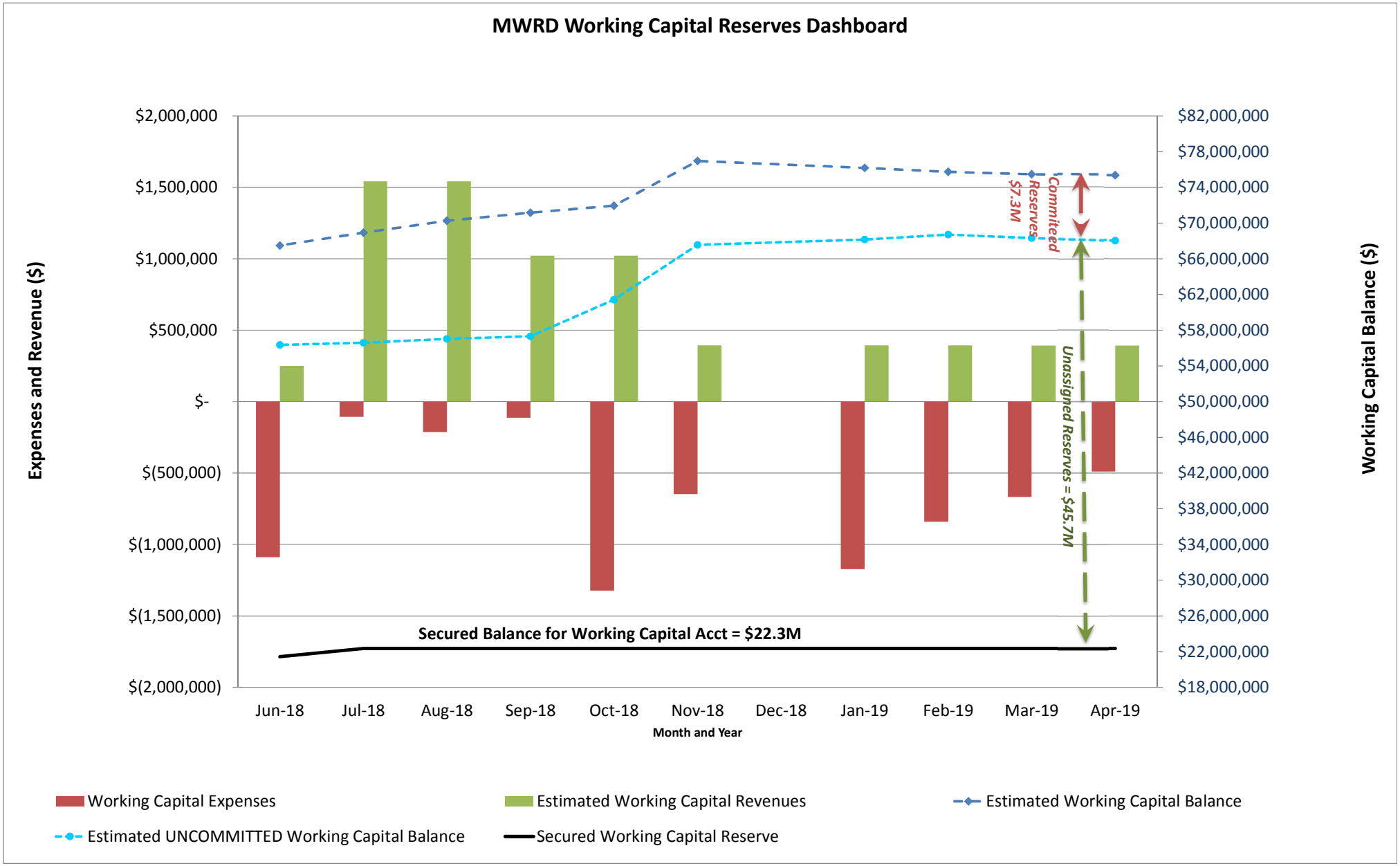
NO.	PROJECT	Originator	2018-2019 2019 FY	2019-2020 2020 FY	2020-2021 2021 FY	2021-2022 2022 FY	2022-2023 2023 FY	TOTAL
			Projected	*Budget*	*Pro Forma*	*Pro Forma*	*Pro Forma*	
	Neighborhood Projects (NP)							
NP-1	Memorial Blvd / Haynes Dr. Drainage Improvements	City Eng	$0	$125,000	$50,000			$175,000
NP-2	Mitchell-Nielson Drainage Project	City Eng	$50,000	$50,000				$100,000
NP-3	Huntwood/Leaf Ave Neighborhood Drainage Imp.	City Eng	$0	$100,000	$100,000			$200,000
NP-4	Southern Meadows / Kimbro Woods Drainage Imp.	City Eng	$25,000	$500,000	$500,000			$1,025,000
NP-5	Liberty Dr. / Thatcher Trace Spring Box	City Eng	$0	$50,000	$75,000			$125,000
NP-6	Pennington Drive Drainage Repair/Upgrade (Added)	City Eng						$0
NP-7	Gateway Pond Repair	Eng/MRSD						$0
NP-8	Hardwood Drive Drainage Upgrade (Added)	City Eng	$0	$250,000				$250,000
NP-9	Pacific Place/Riverrock Blvd Drainage Imp.	City Eng	$0	$0	$0			$0
	Subtotal		$75,000	$1,075,000	$725,000			$1,875,000
	Water Quality Improvement (Compliance) Projects (WQ)							
WQ-1	Town Creek Bioretention BMP's @ Cannonsburgh	MWRD						$0
WQ-2	Molloy Lane Water Quality Pond	MWRD		$25,000	$125,000	$75,000		$225,000
WQ-3	Rosebank Springs Constructed Wetlands	City Eng	$35,000	$35,000	$165,000	$115,000		$350,000
WQ-4	Lee's Branch Stream Restoration	City Eng		$25,000				$25,000
WQ-5	West Fork Stones River at Cason Trail; bank repair	MWRD	$40,000	$140,000				$180,000
WQ-6	Bear Branch Water Quality Mitigation	City Eng						$0
WQ-7	Sinking Creek Headwater protection BMP	MWRD/Eng		$30,000	$50,000	$150,000	$150,000	$380,000
WQ-8	Todd's Lake Regional Wetlands Improvements	City Eng						$0
WQ-9	Hooper's Bottom Regional Water Quality Project	City Eng	$25,000	$25,000	$150,000		$175,000	$375,000
WQ-10	Lytle Creek/Ridgley Road Bacteriological Reduction (Added)	MWRD	$10,000	$15,000	$75,000	$25,000		$125,000
WQ-11	Memorial Blvd/VA Pond Trash Rack (Added)	MWRD						$0
WQ-12	Spence Creek Restoration	MWRD/Eng	$25,000	$25,000	$25,000	$25,000		$75,000
WQ-13	E. Lokey Ave Trash Rack at Sinking Creek	MWRD		$30,000	$75,000			$105,000
WQ-14	Sinking Creek/ Northfield Blvd Commercial Retrofit Study/Project	MWRD	$10,000	$25,000	$50,000	$100,000		$185,000
WQ-15	Overall Street retrofit/ bioretention - streetscape	MWRD		$35,000	$100,000			$135,000
WQ-16	Downtown planter box retrofits study/project	MWRD	$10,000	$50,000	$50,000			$110,000
	Subtotal		$155,000	$460,000	$865,000	$490,000	$325,000	$2,295,000
	Public Drainage/Streets Participation Projects (PD)							
PD-1	Maney Avenue Phase 2	City Eng	$50,000					$50,000
PD-2	Town Creek Conveyance (Murfree Springs to Cannonsburgh)	City Eng	$50,000	$500,000	$250,000	$100,000		$900,000
PD-3	Maple St. Alley Permeable Paver Project	City Eng						$0
	Subtotal		$100,000	$500,000	$250,000	$100,000		$950,000
	Totals		**$ 330,000**	**$2,035,000**	**$ 1,840,000**	**$ 590,000**	**$ 325,000**	**$ 5,120,000**

EFFECTIVE UTILITY MANAGEMENT

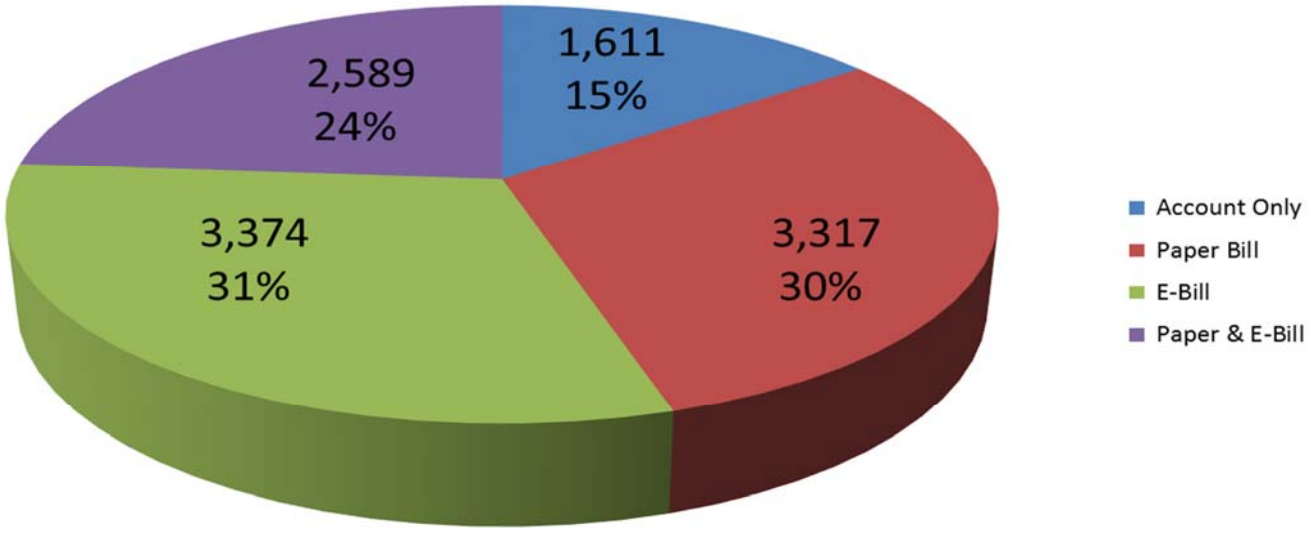
Financial Viability

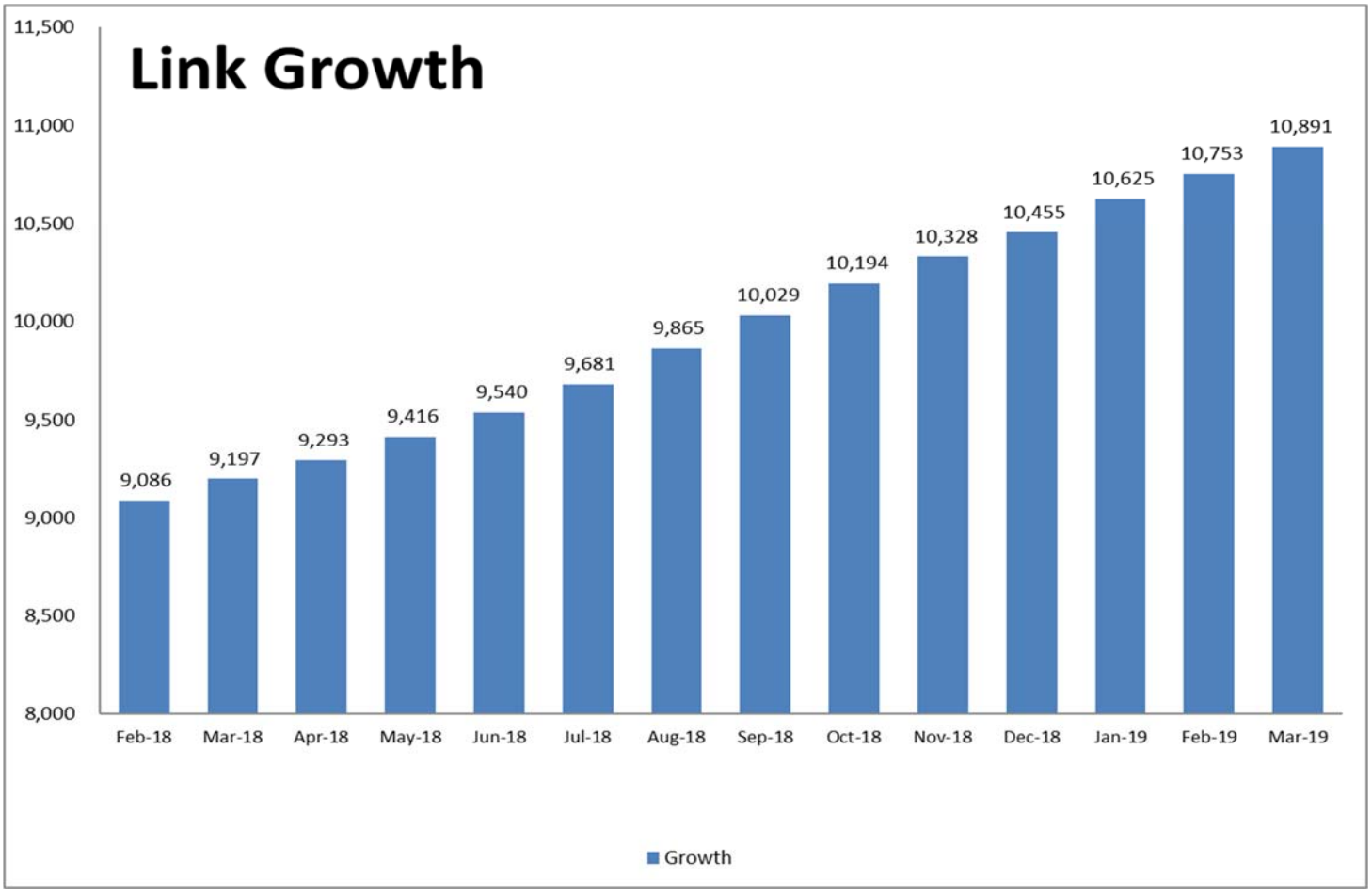
MWRD WORKING CAPITAL ACCOUNT SUMMARY

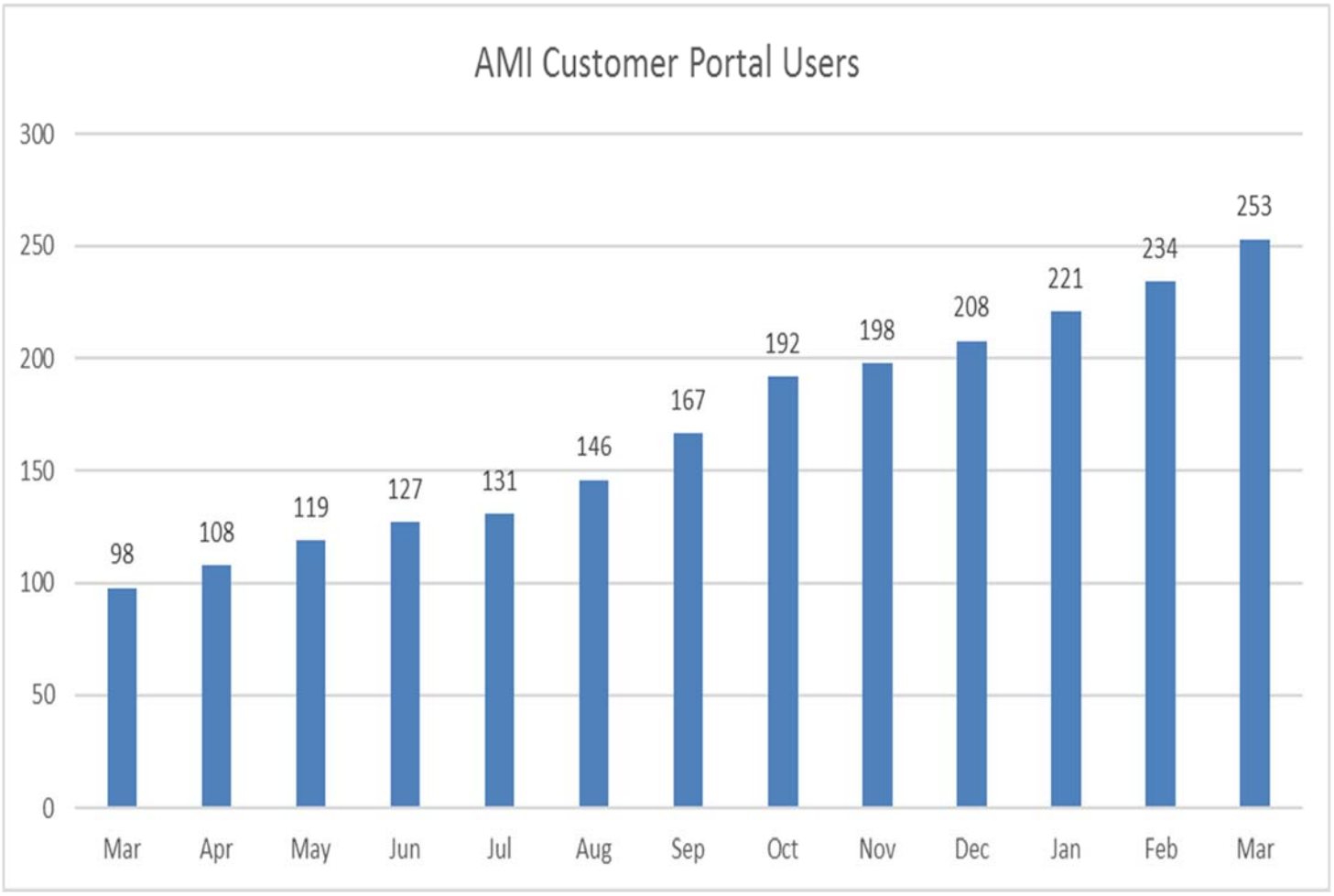
ESTIMATED Working Capital at 3/31/19			
Board Designated (System Dev, Assessments, etc) as of 6/30/18		$ 31,858,736	
Undesignated Excess Funds as of 6/30/18		41,978,125	
Estimated Reserve Revenue thru 2/28/19		7,097,484	
Estimated Reserve Expenditures thru 2/28/19		(5,569,262)	
			75,365,083
COMMITTED Reserves at 4/2/19			
SSR Task Order 201 Facilities Plan	249,860		
SSR Task Order WRRF Capacity Study	48,305		
SSR Task Order Overall Creek PS Capacity Study	35,908		
Sewer Participation - Brinkley Ave, Farrer Property	42,870		
Veterans Plaza Off-site Sewer Participation	15,550		
Penn Valley Pump Replacement	31,944		
Biosolids Thermal Dryer Install (JBS & MR)	155,207		
P.S. Mission Monitors (22)	60,437		
Overall Creek P.S. Updgrades (VFD's)	351,042		
2019 Sewer Rehab Design - S&ME	416,500		
SRWTP Air Compressor Emergency Repair	35,390		
WRRF Aerator 2A Gearbox Replacement	130,930		
Walter Hill Dam Remediation	382,363		
2016/17 Sanitary Rehab Design & RPR CO#3	211,750		
SSR Task Order - Small-scale Thermal Dryer	23,266		
Biosolids Small-scale Thermal Dryer	346,000		
H-S Blackman Park Sewer Design	180,000		
Ransom Drive P.S. Replacement	138,676		
Water Line Replacement @ Airport Terminal	56,000		
SRWTP Raw Water Pumps Replacement	514,812		
SEC Jones Blvd Utility Design Proposal	14,225		
Northeast Regional PS & Conv - SSR	2,084,458		
2016/2017 Sanitary Sewer Rehab	1,165,193		
Waste Load Allocation Study	138,197		
Bradyville Pike Utility Design - Neil-Schaffer	22,710		
Wilkinson Pike Utilties Design	10,190	6,861,783	
APPROVAL Requests at 4/30/19			
Purchase of Two (2) Aerators at WRRF	255,348		
SSR Task Order - Mill, Tiger, Halls Hill Tank Painting	169,595		
Main Stay Suites Sewer Upsizing Participation	45,300	470,243	
BALANCE of Working Capital at 4/30/19 after COMMITMENTS			**$ 68,033,057**
DESIGNATED Projects Pending			
	-	-	
ESTIMATED UNCOMMITTED Working Capital Reserves as of April 20, 2019			**$ 68,033,057**
SECURED FY18-19 Operating and Maintenance Expenses			**$ 22,351,742**
UNASSIGNED Working Capital Funds (Est. Uncommitted - Secured)			**$ 45,681,315**

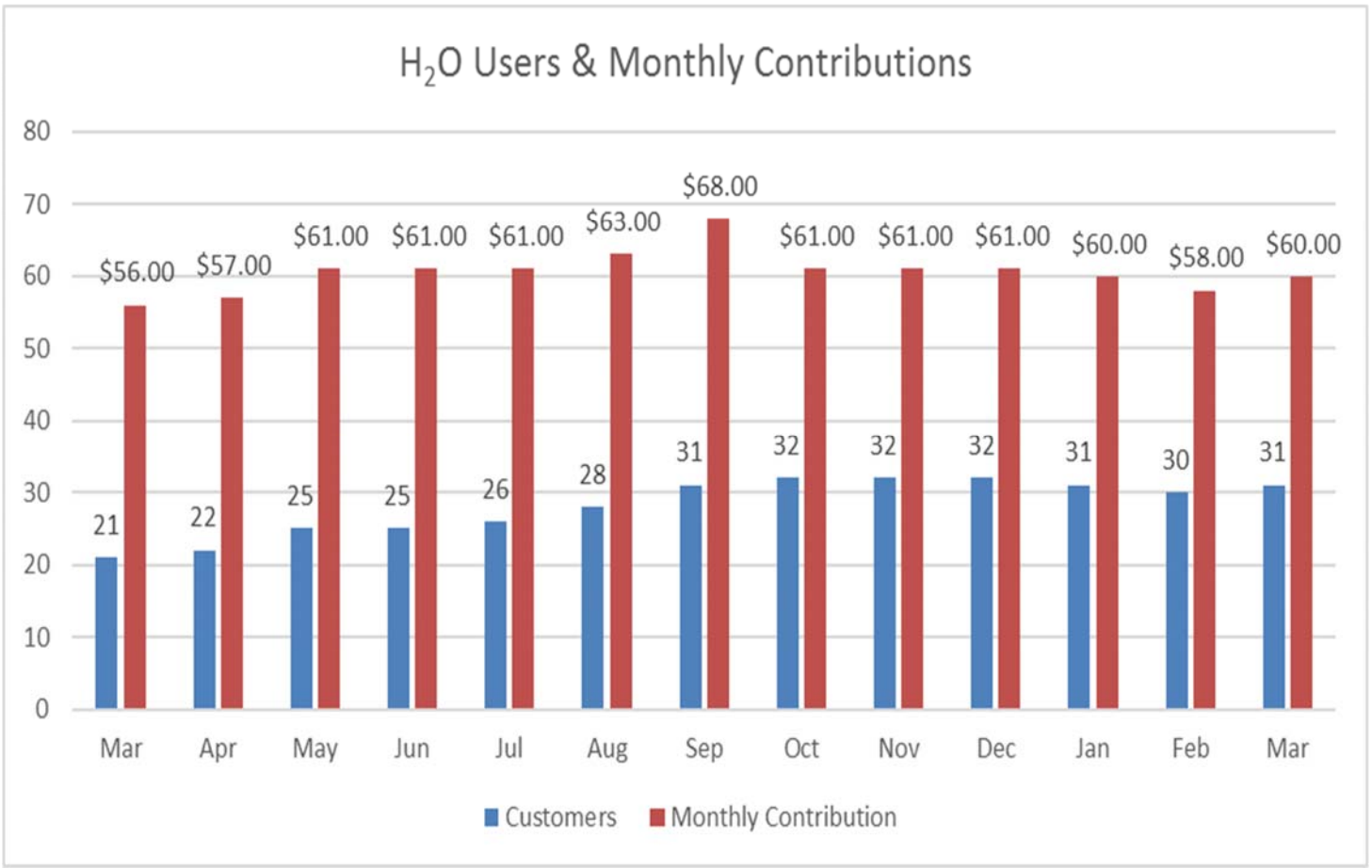

MWRD Working Capital Reserves Dashboard
Expenses and Revenue ($)
Working Capital Balance ($)
$2,000,000
$1,500,000
$1,000,000
$500,000
$-
$(500,000)
$(1,000,000)
$(1,500,000)
$(2,000,000)
$82,000,000
$78,000,000
$74,000,000
$70,000,000
$66,000,000
$62,000,000
$58,000,000
$54,000,000
$50,000,000
$46,000,000
$42,000,000
$38,000,000
$34,000,000
$30,000,000
$26,000,000
$22,000,000
$18,000,000
Commited Reserves $7.3M
Unassigned Reserves = $45.7M
Secured Balance for Working Capital Acct = $22.3M
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
Month and Year
Working Capital Expenses
Estimated Working Capital Revenues
Estimated Working Capital Balance
Estimated UNCOMMITTED Working Capital Balance
Secured Working Capital Reserve

Infinity.Link Customers as of March 2019 = 10,891

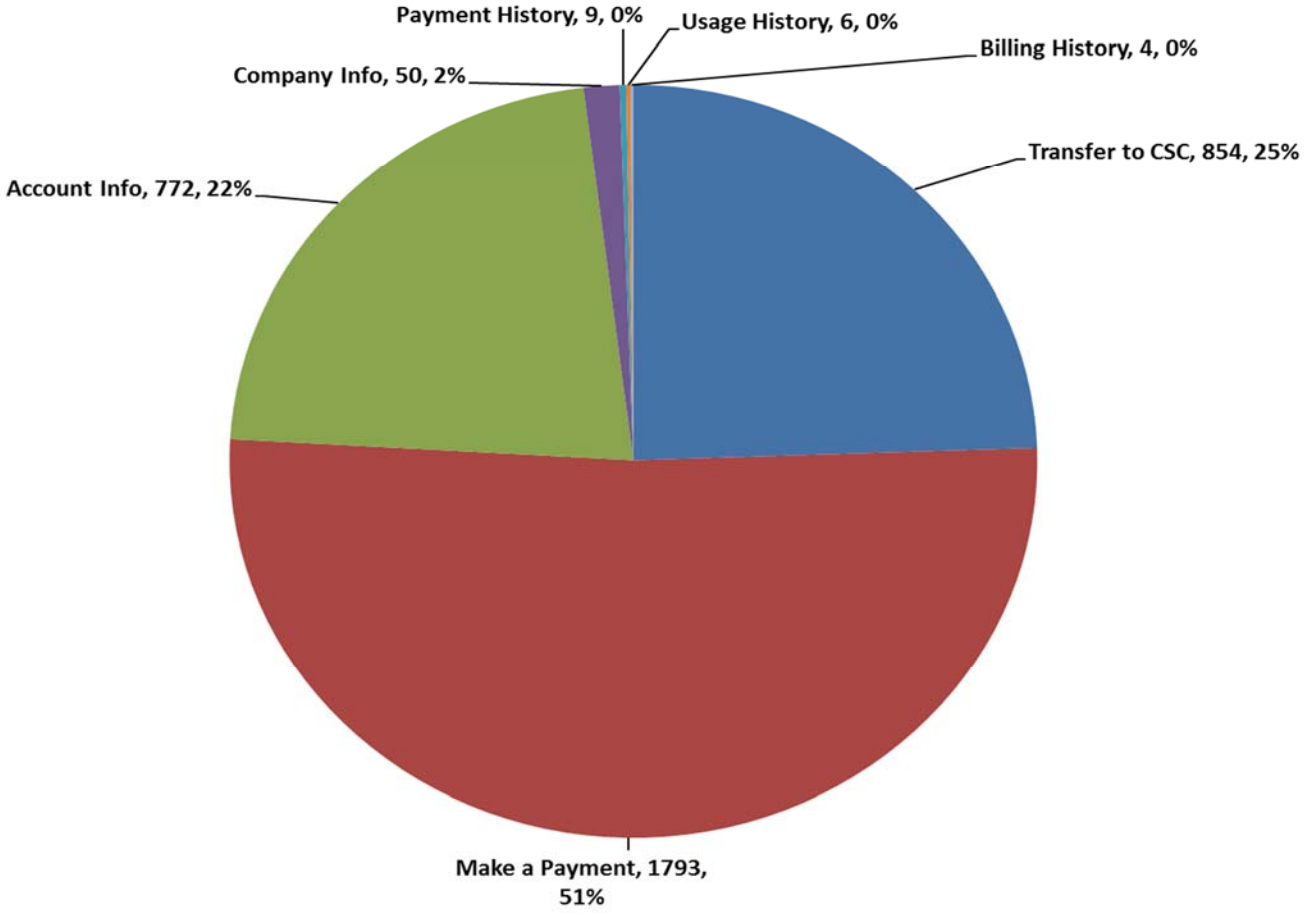




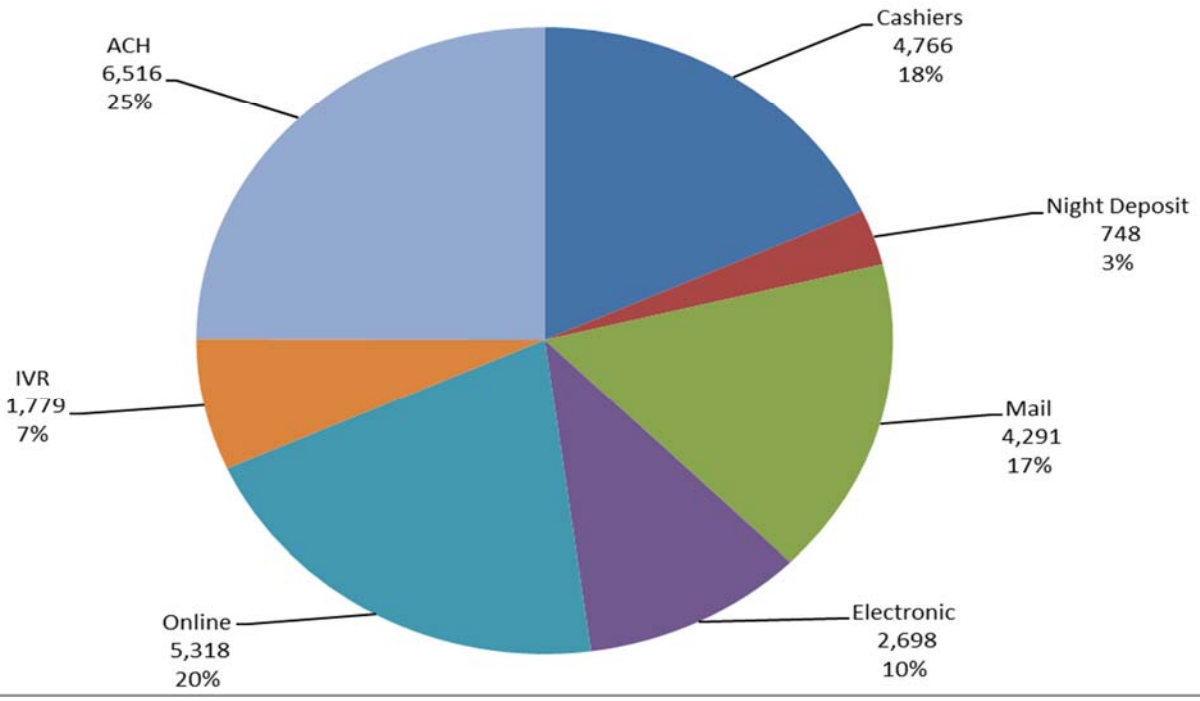

AMI Customer Portal Users
300
250
200
150
100
50
0
98
108
119
127
131
146
167
192
198
208
221
234
253
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar

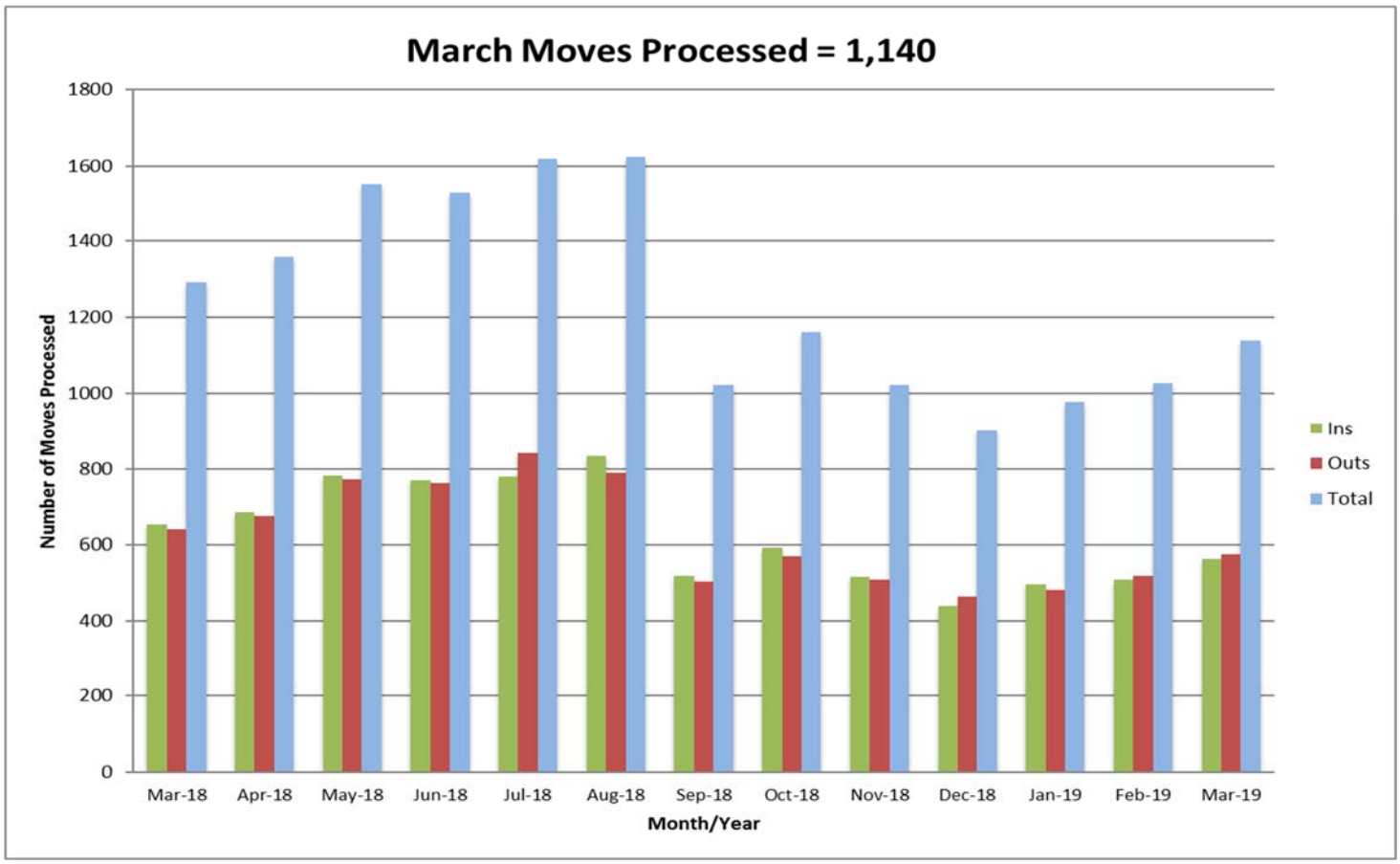

H2O Users & Monthly Contributions
80
70
60
50
40
30
20
10
0
$56.00
$57.00
$61.00
$61.00
$61.00
$63.00
$68.00
$61.00
$61.00
$61.00
$60.00
$58.00
$60.00
21
22
25
25
26
28
31
32
32
32
31
30
31
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
Customers
Monthly Contribution

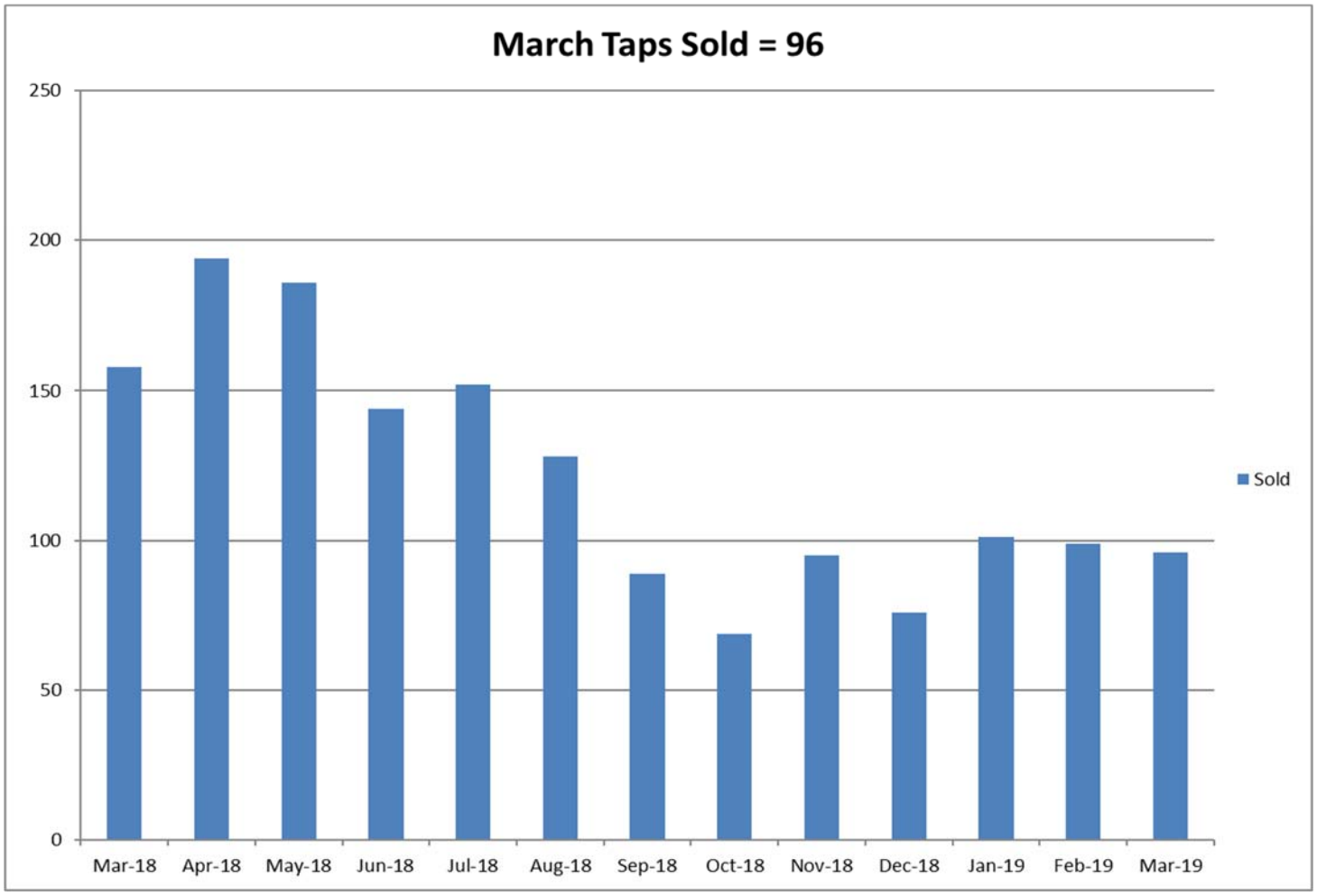
IVR Calls From 03/01-03/31/2019 = 3,488

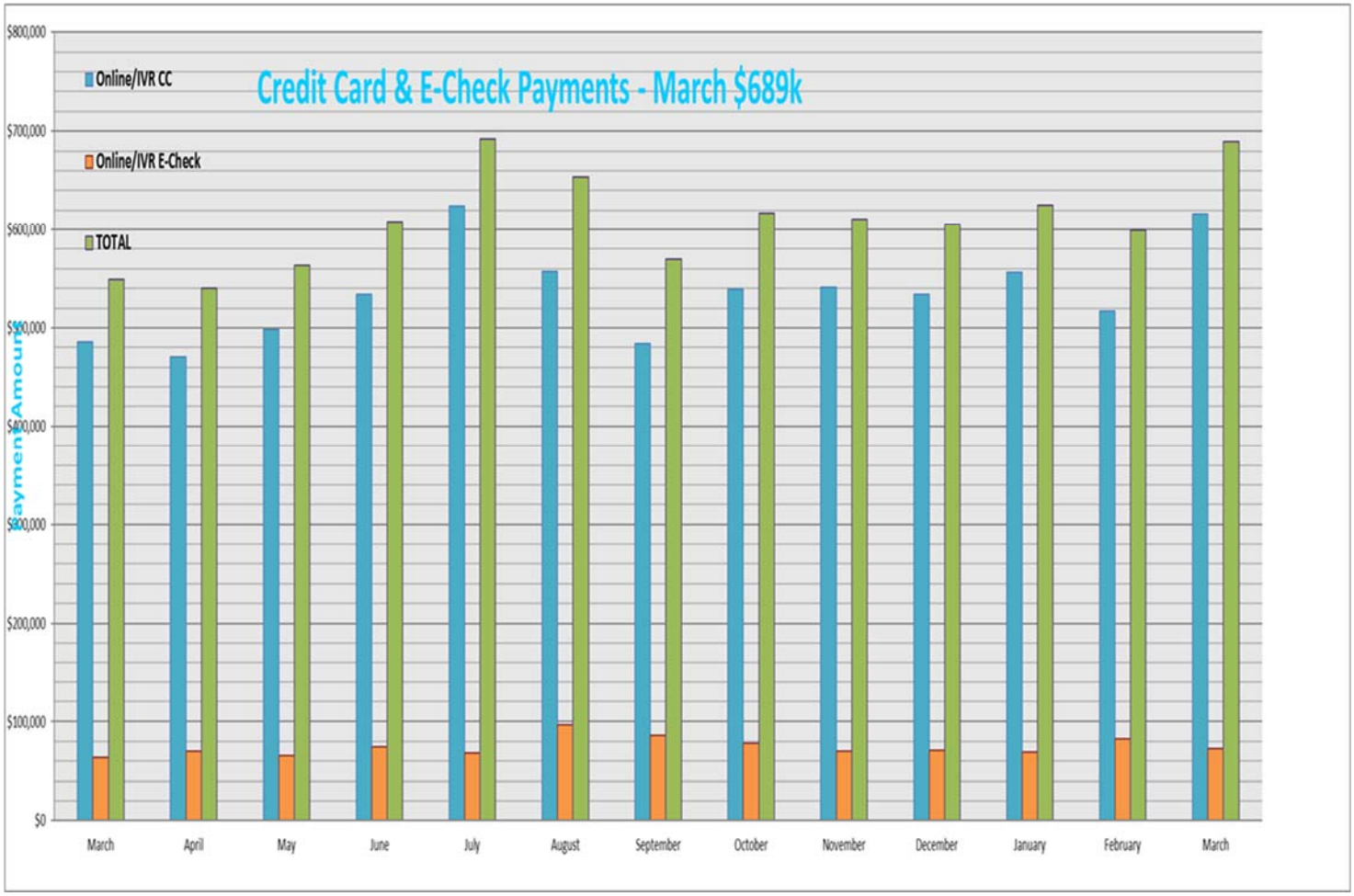


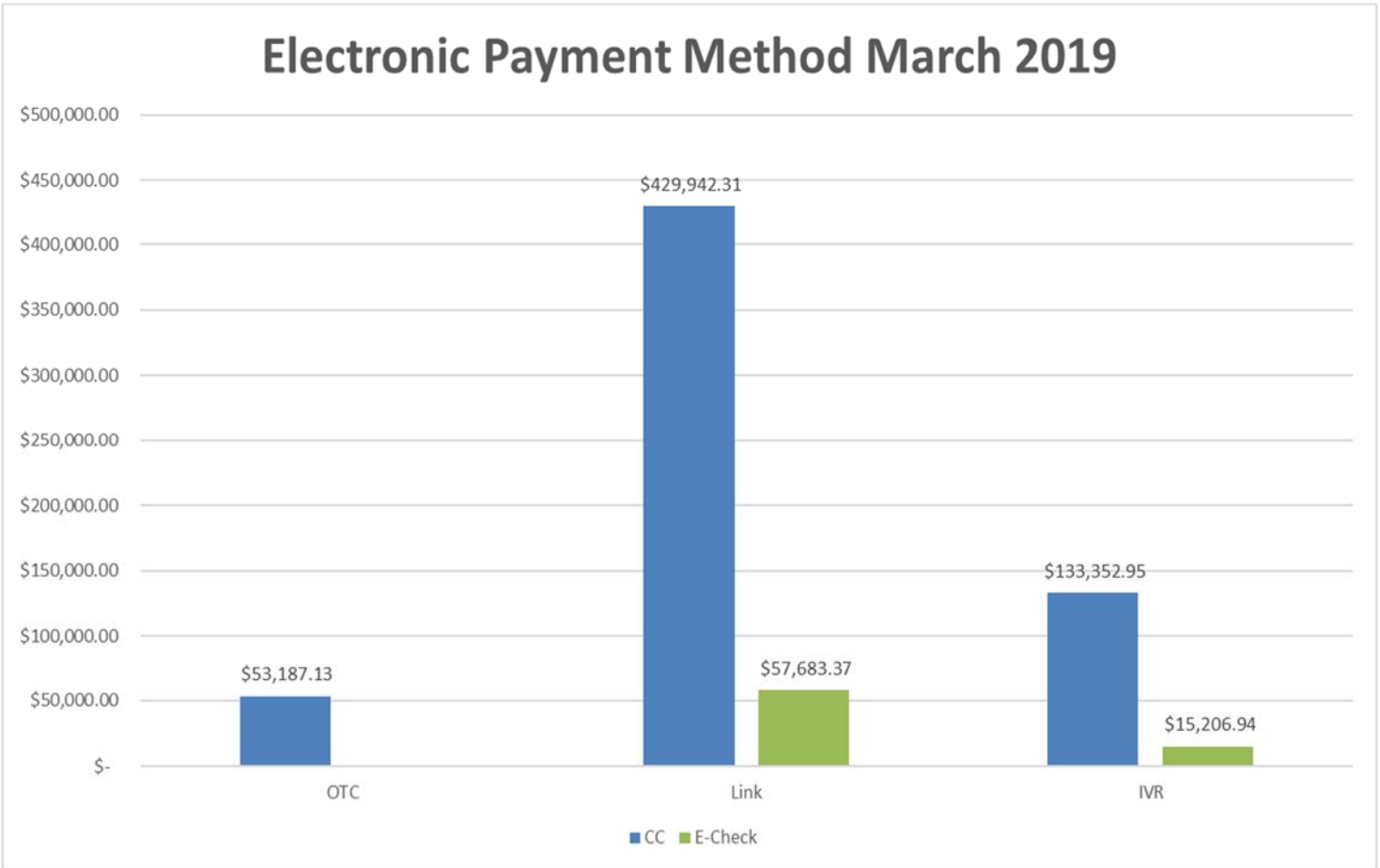
March 2018 Payments by Type

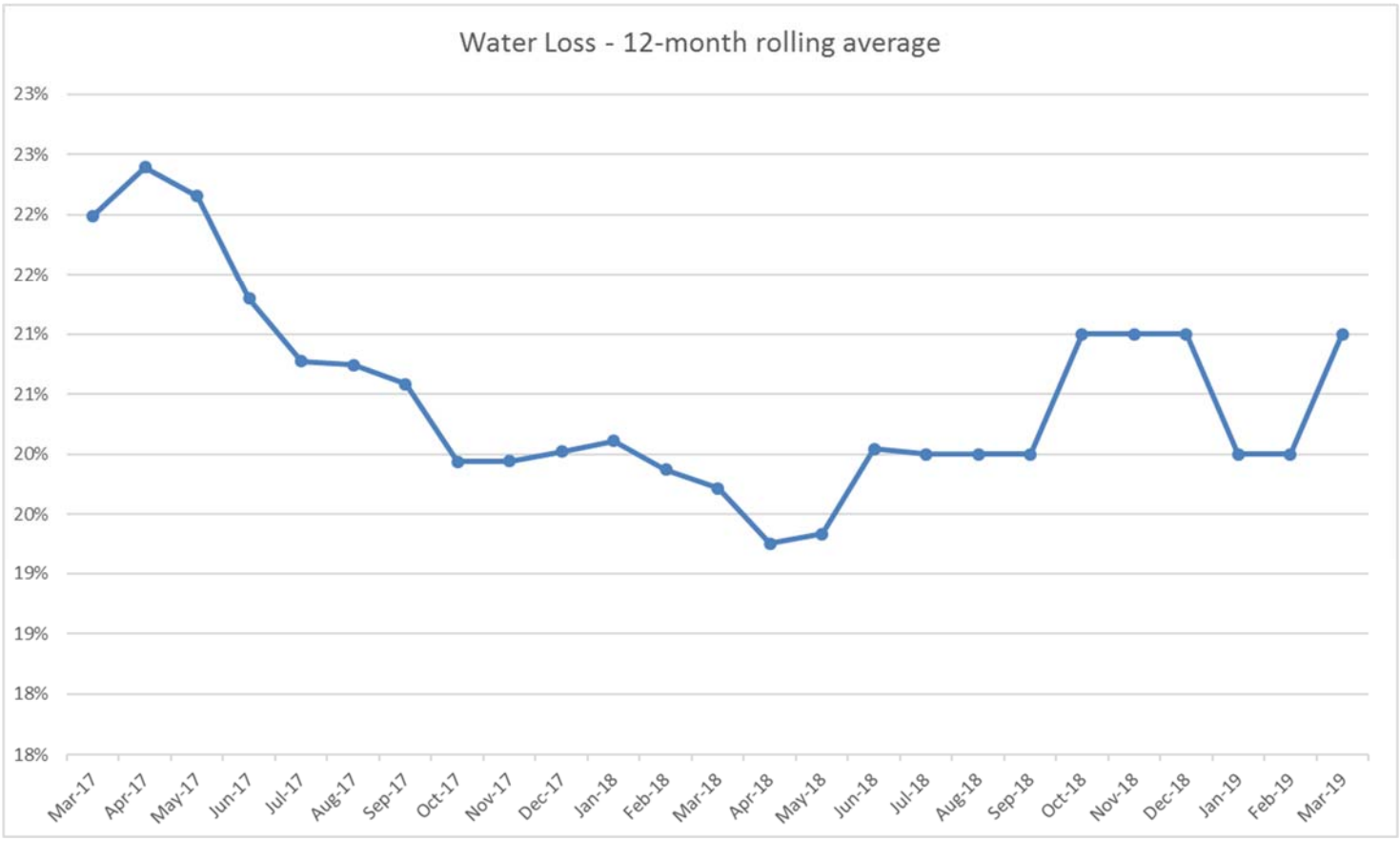


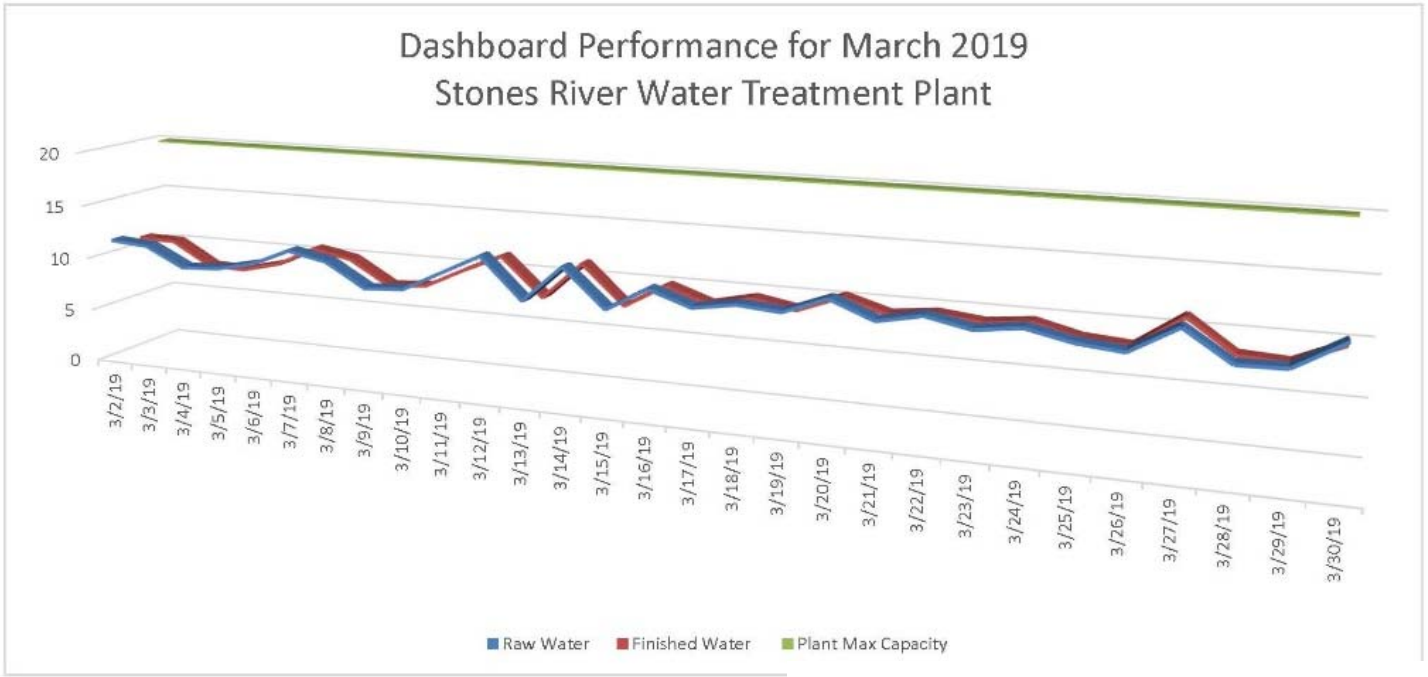

March Moves Processed = 1,140
Number of Moves Processed
1800
1600
1400
1200
1000
800
600
400
200
0
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Month/Year
Ins
Outs
Total


March Taps Sold = 96
250
200
150
100
50
0
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Sold


Credit Card & E-Check Payments - March $689k
Online/IVR CC
Online/IVR E-Check
TOTAL
Payment Amount
$800,000
$700,000
$600,000
$500,000
$400,000
$300,000
$200,000
$100,000
$0
March
April
May
June
July
August
September
October
November
December
January
February
March

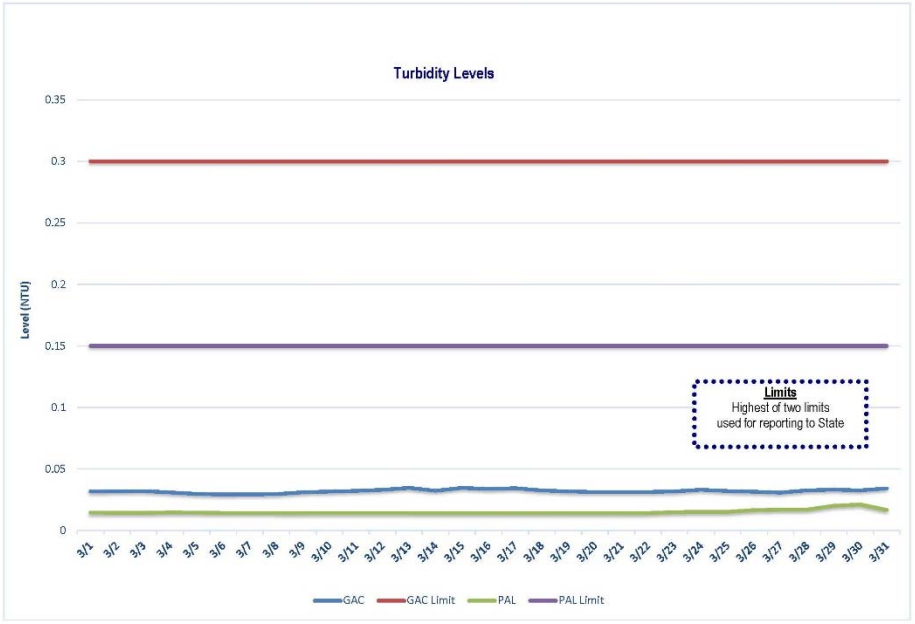

Electronic Payment Method March 2019
$500,000.00
$450,000.00
$400,000.00
$350,000.00
$300,000.00
$250,000.00
$200,000.00
$150,000.00
$100,000.00
$50,000.00
$-
$53,187.13
$429,942.31
$57,683.37
$133,352.95
$15,206.94
OTC
Link
IVR
CC
E-Check

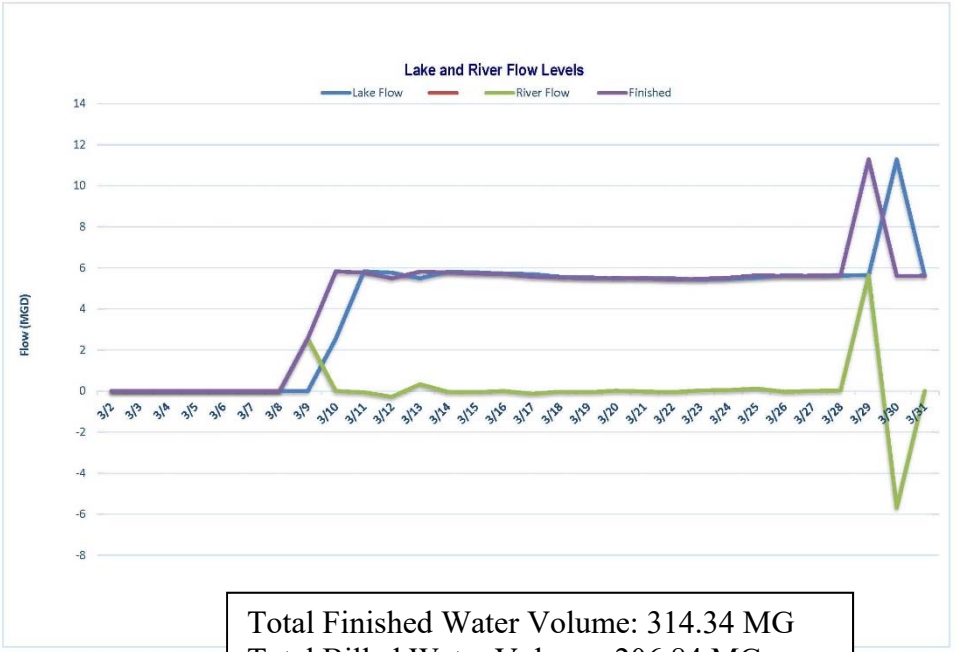

Water Loss - 12-month rolling average
23%
23%
22%
22%
21%
21%
20%
20%
19%
19%
18%
18%
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19



Cross Connection

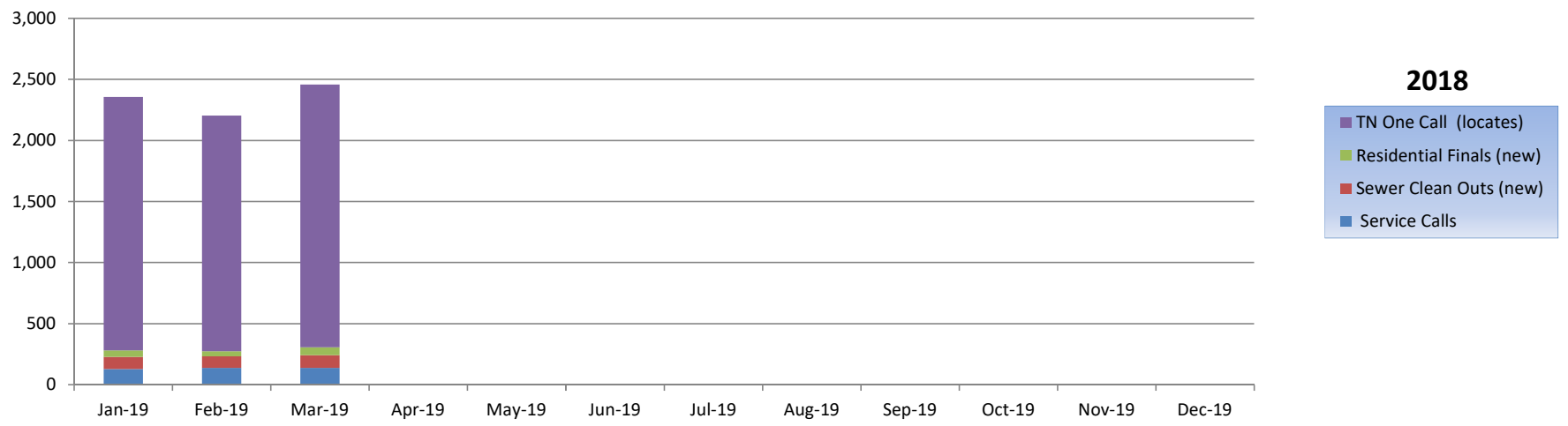
Passed:	286
Vacant:	23
Initial:	16
Passed/Retest:	18
Fail first:	11
Fail 1st follow:	5
Fail 2nd follow:	0
Initial/Fail	0
Fail Final	0
Total Tested:	**359**





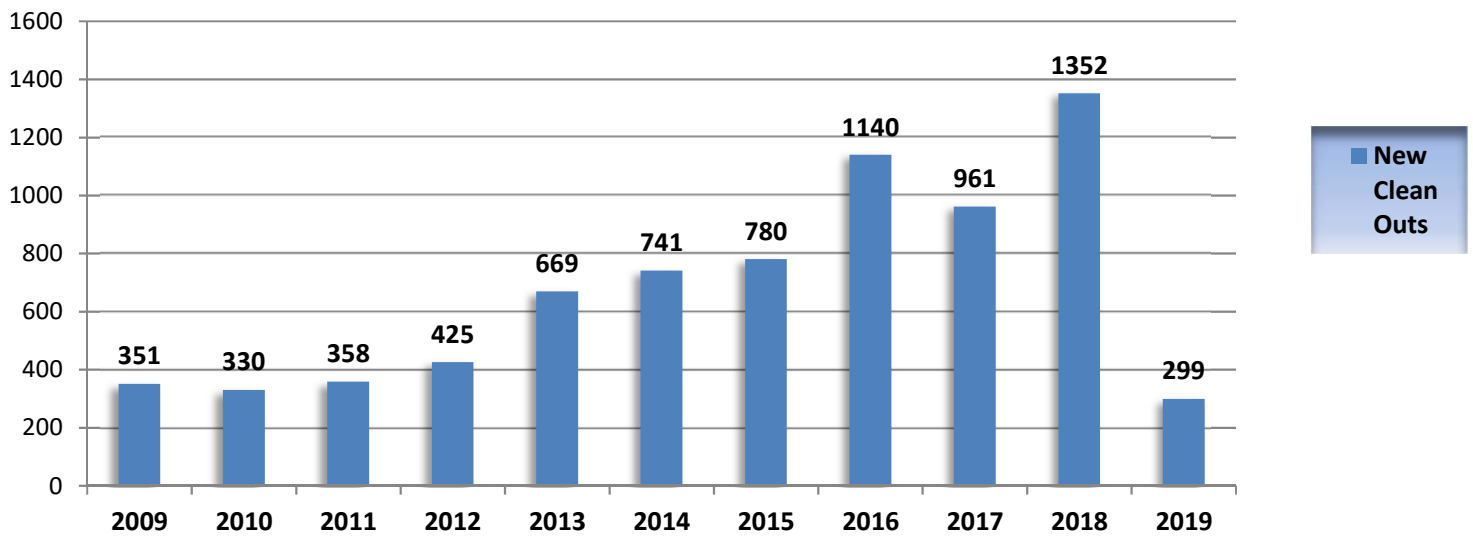
Total Finished Water Volume: 314.34 MG
Total Billed Water Volume: 206.84 MG
Water Loss: 44%

OPERATIONS & MAINTENANCE MONTHLY TOTALS



	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Total
Service Calls	129	138	139										**406**
Sewer Clean Outs (new)	100	95	104										**299**
Residential Finals (new)	52	41	65										**158**
TN One Call (locates)	2,076	1,931	2,150										**6,157**
TOTAL	**2,357**	**2,205**	**2,458**										**7,020**

NEW SEWER CLEAN OUTS



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
New Clean Outs	351	330	358	425	669	741	780	1140	961	1352	299

** For the calendar year Jan-Dec*

MWRD - OPERATIONS & MAINTENANCE

ASPHALT QUOTES

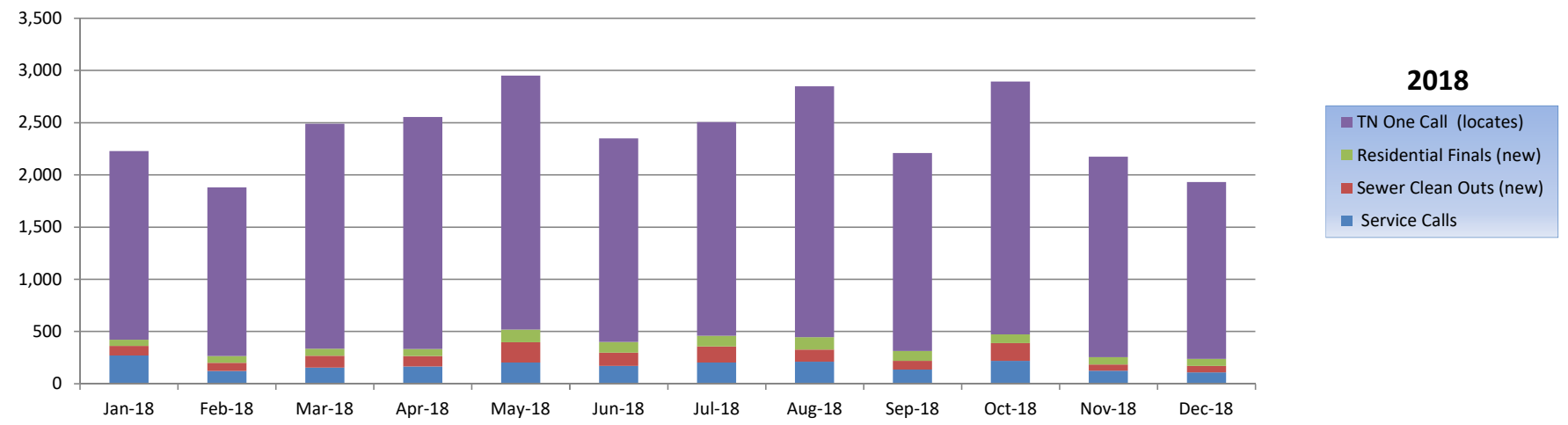
	Blue Water		Hawkins		Vulcan		Notes
	Binder	*Topping*	*Binder*	*Topping*	*Binder*	*Topping*	
Jul	*$54.27*	*$69.78*	$51.76	$60.05	$52.48	$61.30	
Aug	*$51.37*	*$63.07*	$53.64	$62.55	$57.12	$68.00	
Sep	*n/a*	*n/a*	$54.60	$63.68	$54.54	$64.06	
Oct	*n/a*	*n/a*	$54.60	$65.00	$54.63	n/a	
Nov	*$51.75*	*$63.65*	$51.25	$63.05	$54.58	$64.10	
Dec	*$51.75*	*$63.65*	$51.25	$63.05	$54.46	$63.98	
Jan	*n/a*	*n/a*	n/a	n/a	n/a	n/a	Hoover & Vulcan closed til March
Feb	*n/a*	*n/a*	$50.25	$61.56	n/a	n/a	
Mar	*$50.80*	*$61.05*	$50.15	$60.95	$56.65	$65.70	
Apr	*$51.22*	*$61.60*	$50.96	$61.25	$57.05	$66.24	
May							
Jun							

MWRD OPERATIONS & MAINTENANCE

ASPHALT PURCHASES

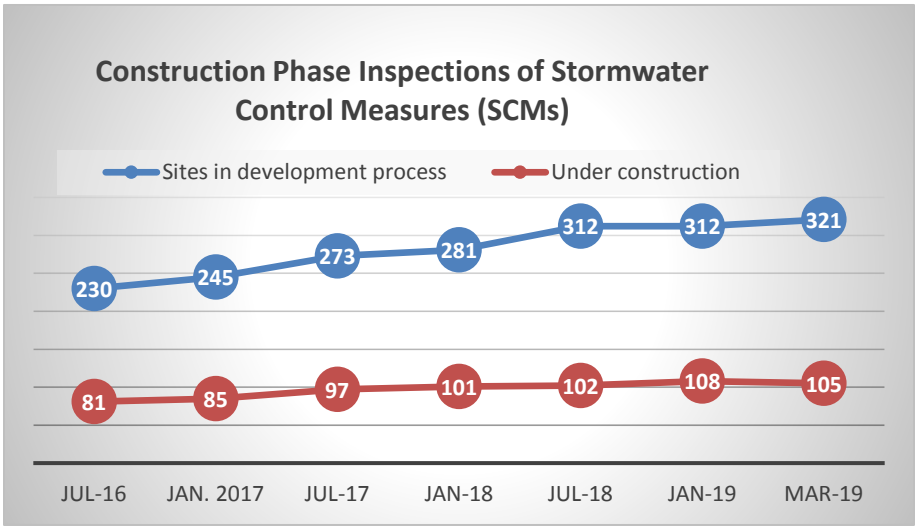
Date	*Approval*	*Vendor*	*Type*	*Rate*	*Qty*	*Total*	*FY Total*
7/26	D. Hughes	Hawkins	BM Mix	$59.75	17.96	$1,073.11	$1,073.11
7/30	D. Hughes	Hawkins	BM Mix	$59.75	17.96	$1,073.11	$2,146.22
7/31	D. Hughes	Hawkins	411-E Mix	$60.05	15.92	$956.00	$3,102.22
8/2	D. Hughes	Hawkins	BM Mix	$53.64	6.00	$321.84	$3,424.06
10/1	D. Hughes	Vulcan	BM Mix	$54.63	46.42	$2,535.93	$5,959.99
10/31	D. Hughes	Hawkins	BM Mix	$54.60	25.04	$1,367.18	$7,327.17
10/31	D. Hughes	Hawkins	CW Mix	$65.00	40.05	$2,603.25	$9,930.42
11/30	D. Hughes	Hawkins	BM Mix	$51.25	60.10	3080.13	$13,010.55
12/19	D. Hughes	Vulcan	411-E Mix	$63.94	16.51	1055.65	$14,066.19
12/27	D. Hughes	Hawkins	BM Mix	$58.29	99.54	5802.19	$19,891.70
Totals							

OPERATIONS & MAINTENANCE MONTHLY TOTALS

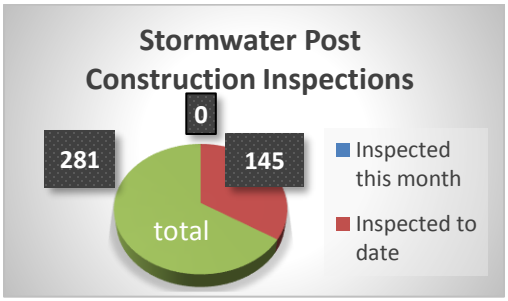


	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Total
Service Calls	273	124	155	167	205	171	206	213	137	221	127	109	**2,108**
Sewer Clean Outs (new)	91	78	115	99	195	128	153	117	84	169	59	64	**1,352**
Residential Finals (new)	60	65	66	69	119	102	103	117	93	84	71	68	**1,017**
TN One Call (locates)	1,805	1,614	2,155	2,222	2,434	1,949	2,046	2,404	1,896	2,421	1,918	1,692	**24,556**
TOTAL	**2,229**	**1,881**	**2,491**	**2,557**	**2,953**	**2,350**	**2,508**	**2,851**	**2,210**	**2,895**	**2,175**	**1,933**	**29,033**

Stormwater Dashboard – March 2019



Inspection Program

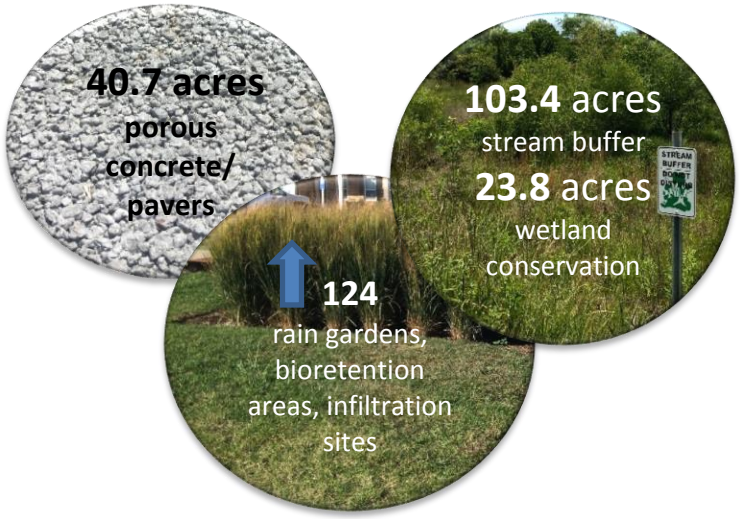


Education and Outreach

- **Lytle Creek Tree Day and Public Meeting**: **317** letters mailed, **800** seedlings distributed in watershed to help restore streamside buffers (MRWD & MTSU)
- **192** door hangers on yard waste (MTSU)
- **1,670** lbs. trash removed from streams by clean ups and trash racks (Parks and Rec.)
- **27** educated on stormwater at Master Gardener class (MTSU)

April 13th – Park Day (Invasive plant removal in OFP)
April 27th - Earth Day on public square

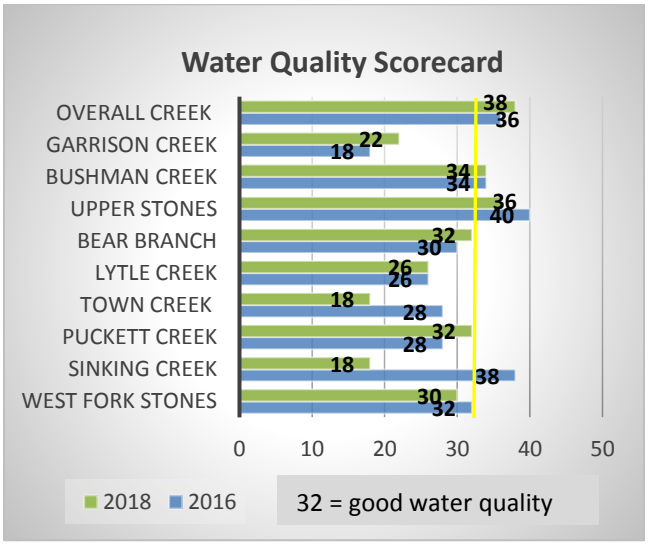
LID/ Green Infrastructure

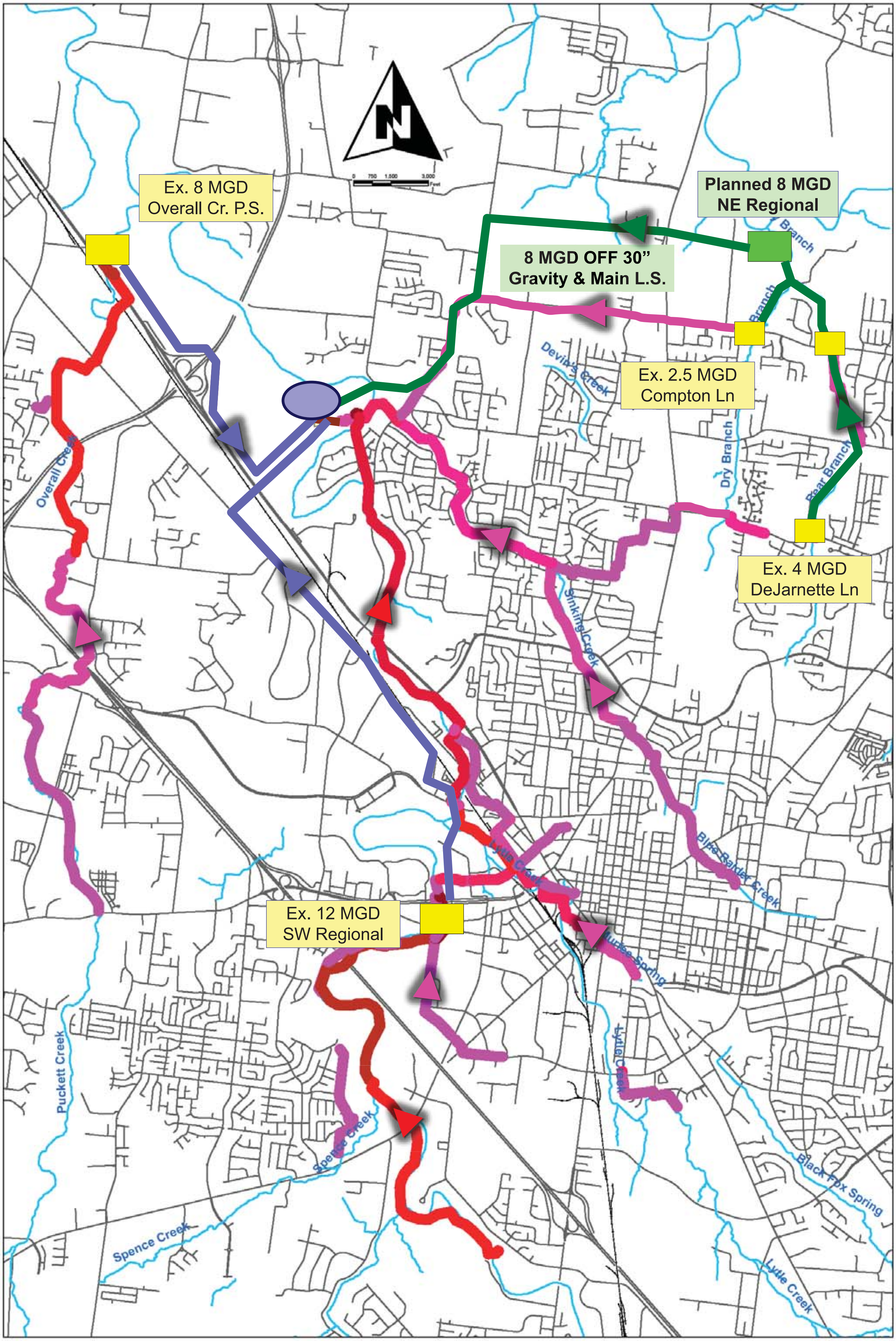


Stormwater Infrastructure

	March	YTD	Total
Junction Boxes	66	143	15,889
Headwalls	18	57	6,669
Ponds	5	17	493
Gravity Mains	8,002 ft	19,700 ft	685.2 miles
Weirs	5	10	280
WQ Units	2	2	107
Underground Storage	0	0	30

Water Quality Efforts




N
0 750 1,500 3,000 Feet
Ex. 8 MGD
Overall Cr. P.S.
Planned 8 MGD
NE Regional
8 MGD OFF 30”
Gravity & Main L.S.
Ex. 2.5 MGD
Compton Ln
Ex. 4 MGD
DeJarnette Ln
Ex. 12 MGD
SW Regional
Overall Creek
Devin's Creek
Dry Branch
Bear Branch
Sinking Creek
Bear Branch
Lytle Creek
Murfree Spring
Puckett Creek
Spence Creek
Lytle Creek
Black Fox Spring
Lytle Creek

MURFREESBORO WATER RESOURCES DEPARTMENT
OPERATING REVENUES AND EXPENDITURES
NINE MONTHS ENDED MARCH, 2019

	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Operating Revenues			
Water Revenue	$ 12,048,513	$ 16,641,000	72%
Repurified Revenue	$ 19,113	$ 29,000	66%
Wastewater Revenue	$ 22,038,475	$ 28,328,000	78%
Other Income	$ 569,817	$ 310,000	184%
Total Operating Revenues	$ 34,675,917	$ 45,308,000	77%
Water Operating Expenses	$ 7,395,511	$ 10,400,321	71%
Wastewater Operating Expenses	$ 7,625,780	$ 11,951,421	64%
Total Operating Expenses	$ 15,021,291	$ 22,351,742	67%
Net Earnings from Operations	$ 19,654,626	$ 22,956,258	86%

WATER REVENUES	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Metered Water	$ 11,001,263	$ 15,300,000	72%
Water Adjustments	$ (21,531)	$ (35,000)	62%
Private Fire Protection	$ 83,850	$ 100,000	84%
Service Initiation Fees	$ 168,378	$ 215,000	78%
Late Fees	$ 524,676	$ 700,000	75%
Non-Payment Fees	$ 134,505	$ 180,000	75%
Returned Payment Fees	$ 6,360	$ 11,000	58%
Cross Connection	$ 126,860	$ 160,000	79%
Enernoc	$ 24,152	$ 8,000	302%
Miscellaneous	$ -	$ 2,000	0%
TOTAL WATER REVENUES	$ 12,048,513	$ 16,641,000	72%
REPURIFIED REVENUES			
Repurified Revenue	$ 19,113	$ 29,000	66%
TOTAL REPURIFIED REVENUES	$ 19,113	$ 29,000	66%
WASTEWATER REVENUES			
Enernoc	$ 4,737	$ 6,000	79%
Sewer Charges	$ 21,535,631	$ 28,000,000	77%
Sewer Adjustments	$ (72,641)	$ (60,000)	121%
Summer Sewer Credit	$ (507)	$ -	
Surveillance	$ 28,728	$ 36,000	80%
Sampler	$ 13,500	$ 18,000	75%
BOD	$ 367,195	$ 250,000	147%
Amonia	$ 99,055	$ 36,000	275%
Septage Charges	$ 61,285	$ 42,000	146%
STEP Revenue	$ 1,491	$ -	
TOTAL SEWER REVENUES	$ 22,038,475	$ 28,328,000	78%
OTHER INCOME			
Interest Earnings	$ 421,565	$ 70,000	602%
Inspections	$ 123,478	$ 180,000	69%
Miscellaneous	$ 24,774	$ 60,000	41%
TOTAL OTHER INCOME	$ 569,817	$ 310,000	184%

MURFREESBORO WATER RESOURCES DEPARTMENT
OPERATING REVENUES AND EXPENDITURES
NINE MONTHS ENDED MARCH, 2019

Water Operating Expenses	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Water Source	$ 206,744	$ 236,000	88%
Water Treatment	$ 2,834,344	$ 4,120,069	69%
Water Storage	$ 34,136	$ 60,000	57%
Water Distribution	$ 1,099,227	$ 1,568,587	70%
Cross Connection	$ 207,205	$ 317,407	65%
Water Plant Administration	$ 729,789	$ 737,544	99%
AMI Field Services	$ 547,231	$ 793,989	69%
O&M Admin Allocation (40%)	$ 129,535	$ 214,770	60%
Customer Service Allocation (50%)	$ 468,766	$ 698,955	67%
Engineering Allocation (40%)	$ 238,950	$ 426,592	56%
Field Inspection Allocation (25%)	$ 67,626	$ 105,576	64%
Admin Allocation (40%)	$ 831,959	$ 1,120,832	74%
Total Water Operating Expenses	$ 7,395,511	$ 10,400,321	71%
Wastewater Operating Expenses			
Wastewater Collections	$ 1,266,357	$ 1,944,256	65%
Wastewater Rehab	$ 92,256	$ 133,500	69%
Wastewater Pump Stations	$ 518,653	$ 731,289	71%
Wastewater Industrial Surveillance	$ 204,126	$ 298,364	68%
Wastewater Private Laterals	$ 3,066	$ 7,500	41%
Wastewater House Services	$ 6,406	$ 12,000	53%
Wastewater Treatment	$ 1,796,222	$ 3,144,383	57%
Wastewater Disposal	$ 431,973	$ 695,628	62%
WRRF Administration	$ 659,634	$ 943,318	70%
STEP System	$ 23,633	$ -	
Repurified Treatment	$ 44,519	$ 114,500	39%
Repurified Distribution	$ 6,325	$ 28,000	23%
Repurified Disposal	$ 100,300	$ 239,708	42%
O&M Admin Allocation (60%)	$ 194,303	$ 322,156	60%
Customer Service Allocation (50%)	$ 468,766	$ 698,955	67%
Engineering Allocation (60%)	$ 358,425	$ 639,887	56%
Field Inspection Allocation (75%)	$ 202,877	$ 316,729	64%
Admin Allocation (60%)	$ 1,247,939	$ 1,681,248	74%
Total Sewer Operating Expenses	$ 7,625,780	$ 11,951,421	64%

MURFREESBORO WATER RESOURCES DEPARTMENT
OPERATING REVENUES AND EXPENDITURES
NINE MONTHS ENDED MARCH, 2019

SUMMARY OF NET TAP FEES	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Water Taps/Reserves	$ 532,654	$ 200,000	266%
Sewer Taps/Reserves	$ 4,771,029	$ 6,000,000	80%
Special Assessment Districts	$ 1,793,802	$ 1,000,000	179%
	$ 7,097,484	$ 7,200,000	99%

DEBT SERVICE	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Principal	$ 1,988,499	$ 11,593,592	17%
Interest	$ 1,372,838	$ 2,332,125	59%
	$ 3,361,337	$ 13,925,717	24%

Debt Coverage Ratio	YTD ACTUAL	ANNUAL BUDGET	% TO BUDGET
Operating Net Earnings	$ 19,654,626	$ 22,586,236	87%
Debt Service	$ 3,361,337	$ 13,925,717	24%
	5.85	1.62	